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The Health Bulletin

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This Bulletin will be sent free to any citizen of the State upon request.

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JANUARY, 1927

No. 1

DAIRY HERD OF METHODIST ORPHANAGE



The above is a photograph of the dairy herd of the Methodist Orphanage of Raleigh. They have two hundred and fifty children at the institution. The average milk consumption for each child per day is one quart. This includes milk used in cooking. Rev. A. S. Barnes, the superintendent, is one of the "Big Men" of his church. He has been at the head of the Orphanage exactly twelve years. Previous to that time for several years he was a popular Circuit Rider in eastern North Carolina, the section of the State which at present, according to agricultural department figures, averages only one cow to each sixteen people. Therefore the superintendent had long observed the effect on growing children of a too scant milk supply.

It is hardly necessary to add that the growth and development of the children at the Raleigh orphanage averages well up to the standard for such institutions.

Every child in North Carolina from the time it is weaned from its mother's breast up to the age of twelve years at least should consume one quart of good sweet milk every day.

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
Colds	Influenza	Tuberculosis Placards
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Chickenpox	Measles	Typhoid Placards
Diphtheria	Pellagra	Veneral Diseases
Don't Spit Placards	Public Health Laws	Water Supplies
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FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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MILK

THE UNIVERSAL FOOD

Sometime ago Governor McLean said to the writer: "What North Carolina needs is more milk," or words to that effect. "Cannot the Health Department do something to help this matter along?"

We promised him that the Health Department could and would. So now at the beginning of the year, when the thousands of tenant farmers in North Carolina are getting settled on their new plantations, getting acquainted with new landlords, and hoping for better outcomes than last year, what better time could be designated for a discussion of this subject?

The deficiency in the consumption of milk in North Carolina is not only confined to the tenant population, white and colored, but applies to all classes of population. For instance, Raleigh, Greensboro, or Charlotte neither consumes certainly more than fifty per cent the quantity of milk per capita that it ought to consume.

The interest of the Health Department in this question is manifold. To begin with, milk is the ideal food. It is a universal food. Never mind the chemical constituents (those are figures that concern the expert) such as proteins, and fats, and what-nots. It is important knowledge for leaders and those in authority to know and to have at their finger tips. But the main thing for the average man or woman to know is that it is a food which comes nearer answering the universal demand for an all round satisfactory tissue builder and life preserver than any other known substance. Furthermore, it is a natural food and with proper exertion and care is available for every-

body. Again, milk is almost as necessary in the proper cooking and serving of a variety of dishes as water itself.

Another important reason why the State Board of Health is intensely interested in the promotion of a larger per capita consumption of milk throughout the length and breadth of North Carolina, is the fact that the vital statistics report all over the State for 1925 showed a large increase in the number of deaths from kidney diseases. Naturally such a situation is due to many causes. For example, too much consumption of poison liquor and many other conditions. But one of the chief things that could lower this high death rate would be a closer attention to a regular diet and a larger increase in the consumption of milk, especially by people past middle age. A slowing down on the consumption of coffee and an increase in the consumption of milk would undoubtedly help a great deal. As it is the reverse seems to be the situation—very little or no milk consumed and an increase in the drinking of coffee by persons nearing old age. This statement is in no way to be construed as a condemnation of the habit of drinking coffee, provided it be consumed in moderation; but is a statement of fact which any well informed physician thoroughly understands.

An additional reason for Health Department interest—and an exceedingly important one is the fact that tuberculosis still leads the cause of deaths in North Carolina. Milk is not only recognized everywhere as the ideal food for patients suffering from tuberculosis; but as it is now a recognized fact that

the great majority of people who contract tuberculosis, even in later years, do so through exposure in childhood, and several years of undernourished physical condition in early childhood makes it more probable for that disease to be contracted.

The Tenant Farmer

In the matter of undernourished children in migratory occupation, the tenant farmer here comes in for considerable attention. The more humanitarian and enlightened land owners today are recognizing the fact that a good garden, plenty of chickens, and a good family cow are just as essential to the making of a good cotton or tobacco crop as a time account at the supply store. Furthermore, all classes of land owners are beginning to realize that such a provision and such a requirement is good business. The rapidly increasing industrial expansion in this State affords employment in mills and factories to an increasing number of people. The greater number of such operatives are recruited from small towns and through the small towns from the country districts proper. In other words, the tenant farmer and his family is the ground log of mill labor in North Carolina. Therefore it is important for the tenant farmer to be supplied with plenty of milk for his children, because, first, it contributes to their health and happiness and prosperity and so makes him increasingly content to stay on the farm and save money with which to purchase a farm of his own. It enables him to stay in an environment that he loves and is satisfied in, to send his children to the consolidated schools and therefore provide them with a good common and high school education. And for those who for various reasons find mill life more attractive, the children that go into service in such mills when they grow up have better health, have a foundation of good physique, and are thus able to make more money and to live better, and provide better facilities in turn for their own families when they set up homes of their own.

We have at hand no statistics to prove it, but the impression prevails that the consumption of milk among

tenant farmers and their families and factory workers is below the average of people in other vocations. Such an impression is probably true because of the fact that it is hard for the tenant farmer who has no home or land of his own and who moves from one farm to another almost every year, to find it possible to take care of a cow unless the landlord insists on it and makes some provision for the easy upkeep of his cow. Naturally it is impossible for the average family that works in a factory to keep a cow. In the first place, for most of them it would be an economic mistake, unless they live far beyond the mill villages where they would have room for the cow's upkeep. Naturally for such people a good quality of milk at a reasonable price is an important consideration. The providing of this commodity affords a market for an increasing number of dairymen around the small mill towns as well as providing a necessary article of food to people who need it.

A Safe Milk Supply

One reason for the deficiency in milk consumption in this State probably dates back to the days when typhoid fever existed on every block and nearly every farm in the summer time. When called to see such cases in the days before the whole-time health officers and organized health departments, the physician naturally looked for the cause of the contagion and generally charged it up with considerable accuracy to the milk or water. This is because milk and water make admirable vehicles for the propagation and transmission of typhoid germs. Today under the expert supervision of dairy and food inspectors, the enforcement of milk ordinances, and the rigid care exercised in the provision of public water and food supplies affords a more and more safe milk and water supply than ever before in the history of the State. With the approved public water supply free from contamination available for a third of the people of North Carolina, and with seventy-five per cent of the cities and towns in the State purchasing milk protected by a standard milk ordinance promoted by the North Carolina State Board of

Health, the purchase and consumption of a bottle of milk is just about as safe as the purchasing and eating of any packaged food sold from the shelves of any clean grocery. So the prejudice against milk on account of the fear concerning its safety can very readily be dispensed with, especially if ordinary care is exercised in the handling of milk after it reaches the kitchen of the consumer.

Keeping Milk Cool

In the old days before the production of artificial ice, all the better class farm homes were provided with milk houses in which standing water, which frequently changed, assured a reasonably low temperature in which to preserve the milk from milking time to table use. The reason so few facilities of that kind are observed today about over the State is because the class of farmers who made such ample provision for carefully taking care of the milk find it cheaper and easier in these days of good roads, automobiles, and cheap ice to maintain refrigerators exactly like their city neighbors. So it is safe to say that milk is easy to keep in any kind of farm home. For the tenant farmer, white or colored, who is not able to have a refrigerator or ice box, it is easy enough to milk twice a day and in the hottest weather to utilize the pans of water for keeping the milk cool.

The reason for so much to say on this phase of the matter is because one of the essentials to a safe milk supply

is a cool temperature, because milk affords an ideal culture ground for propagation of numerous disease germs in hot weather. But, as aforementioned, this requirement is easy to meet. As proof of this fact, milk is shipped to-day from around Charlotte to points in Florida. There is one concern at least in Raleigh that daily has a large amount of milk shipped to it from as far away as West Virginia. The distribution of such milk is made absolutely safe through the modern provision of pasteurization, which has now reached a stage of perfection never before realized in the past.

Economic Aspect

Primarily, the economic aspect of the milk question is not the official concern of the State Board of Health, for other departments of the State Government are much better prepared to deal with that aspect of the question. However, from the standpoint of health and happiness, the State Board of Health is naturally interested to a very vital extent. Old-timers had a saying in the country districts that they had never seen a mortgage foreclosed on a farm, be he owner or tenant, who raised his own meat supply and his own corn, had his own chickens, and kept his own cow. One of the first essentials to good health for any family is happy surroundings, contentment in work, and a plentiful food supply of proper food, and consequently freedom from worries and anxieties that undermine the health of any individual any time, any where.

"MULTIPLE HYGIENES"

Doctor George H. Bigelow, State Commissioner of Health of Massachusetts, writing recently in the *Bulletin of Health* of that State said that "This seems to be the era of multiple hygienes. With the development of health education and the emphasis on the health examination we hear of hygiene of the mind, the skin, the hair, the teeth, the bowels, the feet, posture and so on. Also we are seldom allowed to forget social hygiene or industrial hygiene. It is all very hygienic and confusing and we hardly know where to begin, or, what may be worse, where

to stop. There is much in all of this that is sound and much that is unmitigated bunk." To which sentiments we wish to echo a loud *Amen*.

Health is a peculiar adjustment requiring the harmonious coördination of numerous factors having different values; and each factor having a different significance when applied to individual entities, so that it will be probably forever impossible to adopt particular prescriptions for universal use. An educational health service could be founded on such a premise if a drug or a regime good for one patient would

invariably be good for all other patients similarly afflicted. In short old wives' tales and Tom Sawyer therapeutics with its dead cats and graveyards at midnight would be Scientific Medicine. A diagnosis could always be made by telephone and prescribing done by number with happy results to all. Naturally the only effective, and valuable, and honest health teaching that is possible to impart is for us to confine our activities to matters of proved conclusions, the observance of which are always of value to everybody. As an example. Typhoid fever is a preventable disease and as preventive measures are simple and easily understood by everyone it is a duty of a public health educational service to use every means at its command to impart such information to all the State's citizens. Another example is to promote in every way possible the eradication of malaria, tuberculosis, hookworm, diphtheria, smallpox, diarrhoea and enteritis and other diseases in which the established methods of control are known and practical. Still another duty is to encourage as far as possible the universal use in the dietary of every family in the State, of fresh fruits and vegetables and dairy products. Good housing and sleeping with plenty of available fresh air are other

desirable habits which every health department should always encourage. These things are health builders and serve to promote happiness and prosperity and are habits that it is just as desirable to promote as habits of thrift and saving. Both objectives have the same appeal—that is they not only promote happiness but fortify against the days of adversity and old age. A health department official cannot sit in his office in Raleigh and read a letter from a citizen in Cherokee or Harnett County, describing symptoms of some suspected disease, and attempt to make a diagnosis. If such an official undertakes to do so he then and there writes himself down, and advertises the fact to the world, as an ordinary quack. The only sensible disposition to make of such an inquiry is to urge the writer to consult a reputable physician. On the other hand if a citizen writes the health department and wants to know how to protect himself and his family against smallpox it is the duty of the health official to provide such citizen with all the information to be had on the subject. Such a course is not only safe, and wise and desirable but is in the interest of other citizens in addition to the individual making the inquiry.

THE "COMMON COLD"

This is the season of the year when the so-called "Common Cold" is prevalent. Nearly every other person one meets is mopping his nose and sneezing. In the street cars and stores there is a regular barrage of human saliva flying through the vitiated atmosphere. Every friend has advice and a prescription to recommend. Every physician is repeatedly asked how to prevent a "cold," what causes it, and what to do for it. Every individual has a theory all his own about the cause, especially as to the cause of the one he has. The worst of it is so far as scientific fact is concerned the guess of one individual is just as apt to be correct as that of any other person. There is probably no other affliction of man-kind that has such a wide appeal and is fraught with so much genuine interest and concern. Scientific people the world over are

striving all the time to get at the underlying causes of the so-called "cold."

Some of the more cocksure members of the medical profession and an occasional health officer frequently express positive opinions on the subject. For instance last winter the City Health Officer of New York calmly advised New Yorkers to keep their feet dry in order to prevent "colds" and pneumonia. About that time all the New York papers were giving front page space to old man Edward Weston, the famous walker, who has just about walked all over the earth in every sort of weather. Mr. Weston described his experience in walking through one of New York State's winter blizzards. He said that he had been exposed and ice bound for hours but suffered no ill consequence, and to quote his exact words, "could not get up a sneeze."

One of the recent issues of *Good Housekeeping* carried a very interesting article by Dr. Harvey W. Wiley on the subject of "Colds." Dr. Wiley discussed in his usual interesting and attractive manner the attack which caused the death of George Washington. Dr. Wiley clearly leans toward the "exposure and neglect" opinion held by so many people. However his article is extraordinary because of the suggestion that the death of Washington may have been caused by laryngeal diphtheria. Dr. Wiley states that the treatment administered to Washington for his "cold" was the removal of more than fifty ounces of blood by bleeding and large doses of calomel and antimony. No wonder he died almost immediately! Just suppose that sort of business represented the customary treatment for such ailments today. But before we poke too much fun at the medical attention administered to our first President, let us contemplate the spectacle of the high and mighty medical ones in Washington treating our last President for a "cold," as described in all the newspapers last winter. We are forced to shudder at the treatment accorded President Washington, but we can't help laughing at the chlorine guns leveled on President Coolidge for the same trouble. It is needless to say that in each case the medical attention represented the best in the land, and each group was giving the patient what was recognized as the most modern treatment known at the time to medical science.

Now, like every other normal human being we have a theory all our own. It is that the condition described ordinarily as a "Bad Cold" is a condition caused by some specific organism, as yet not isolated. That the reason climate, changes in the weather, exposure to cold and wet, or direct exposure to the secretions sprayed from the discharge of a patient, frequently have no effect on some people, is because of a specific immunity possessed by some people nearly all the time and by other people part of the time. Sometime in the future some bright laboratory worker will isolate the germ or whatever organism causes the distressing condition; and following, some great mind will unravel the laws of

immunity applying, and another great step toward the alleviation of human suffering will have been taken.

That our readers may have the opportunity to read for themselves what the editors of three great private medical and public health journals have to say on the subject we are quoting below three editorial articles. First, "Climate and Common Colds"—from the *Journal of the American Medical Association*. Second, "The Season of Colds"—from the *Nation's Health*. Third, "How We Catch Common Colds"—from *Hygeia*.

"Climate and Common Colds"

"Acute coryza is probably the most frequent of all diseases. When the cold is confined to the nose, mouth and pharynx it is rarely fatal, but the attendant distress and the possibilities of further involvements make the attacks a real menace. Few if any persons ever escape, and the majority suffer repeated attacks. It would be rash to assert that any theory of the actual or exciting causes can be successfully defended at the present time; but many indications point to a bacterial factor as the most frequent probable agent. This is supported by the admitted readiness with which colds are often communicated from one person to another. Drafts and chilling are also implicated in the incidence of common colds, not as a specific cause, as was at one time supposed to be tenable, but because such environmental effects somehow tend to lower resistance and hence predispose the body to infection. There is still a wide-spread belief that climate plays a significant part in the occurrence of colds. If this were correct, one would expect them to be far less common in those regions where the atmospheric conditions are particularly satisfactory. The statistical comparison recently reported by Barrow indicates, however, that the incidence of "colds" at Stanford University in California, in a notably agreeable climate, is about the same as among comparable groups of persons at Cornell University at Ithaca, N. Y., Wellesley College, and Harvard University. In other words, the extremes of climatic conditions experienced in Massachusetts and New

York State as compared with the more temperate climate of California are not major factors in the susceptibility to upper respiratory tract infections. It may be a disappointment to those given to offhand pronouncements to read that whether the students use sleeping porches, well ventilated bedrooms or poorly ventilated bedrooms for sleeping purposes does not materially affect the susceptibility grouping. Although the morbidity is slightly higher among those using poorly ventilated rooms, the difference is not great enough to warrant any definite conclusions. Only by facing the statistical facts squarely without commitment to any unproved hypothesis can it be hoped to make real progress in the mastery over the common cold. Meanwhile the methods for prevention and measures for protection may well be based on common sense hygiene rather than specious theories."

—*Journal A. M. A.*

"The Season of Colds"

"The approach of cooler weather will soon bring with it the usual crop of colds. While much attention is being given to cancer and heart disease and similar important health problems no one seems much concerned over the subject of common colds.

"Endowments are being asked for many types of health work, none of which surpass the common cold in producing disability or in leading to other and more serious consequences. There is probably no disease of as far reaching importance—unless it is syphilis—as the common cold. Its economic significance among wage earners cannot be computed, but it is known as the cause of the greatest loss of time and efficiency with which industry has to deal although individual losses are not large.

"Why are not more serious efforts made to determine the cause and eradicate it? Organized research backed by ample funds would doubtless uncover many important facts now buried in ignorance or lack of interest in the subject.

"Does the lack of possible spectacular results detract from this field? A solution of the causation of the common

cold will entitle its discoverer to fame as lasting as that of Koch, Pasteur, Reed, or other conquerers of man's disease enemies. The solution may lie in the fields of bacteriology, or physiology, or of chemistry, or in all three, but wherever it is, the service to mankind will more than compensate for efforts put forth in its attainment. Let us cease considering the cold as a minor affliction and attack it vigorously and effectively. The result will be worth far more than any cost or time involved."—*The Nation's Health.*

"How We Catch Common Colds"

"Almost every one has a belief as to the cause of catching a cold and has a method of treatment that he thinks will cure it. Among the more common secondary factors usually mentioned are sitting in a draft, changing from winter to summer underwear, going from a hot room to a cold one, and getting the feet wet. The cures include the use of a warm foot bath, a hot bath, a cold bath, lots of fresh air, no fresh air, eating of onions, carrots or celery, and a half dozen other methods based on some grandmother's advice or a superstition.

"Most physicians believe that colds are transmitted from one person to another by the intermediation of a germ as yet unidentified, and that one is likely to catch cold particularly if he has been in a draft or has otherwise been exposed to some change of external temperature.

"Dr. D. F. Smiley of Cornell University, after an investigation of common colds among the students of that school, concluded that it is impossible to prove that overexercise, cold baths, loss of sleep, drafts, kind of underwear worn, mouth breathing, the kind of shoes worn in wet weather, sweating after exercising, or the removal of tonsils or adenoids are factors in catching cold.

"More recently Dr. William H. Barrow of Stanford University concluded after a study of colds in that institution that the various systems of heating such as coal stoves, steam heat, gasoline, oil stoves or no heat at all did not seem to influence in any way the num-

ber of colds caught by the students. He also found that students caught cold just as easily whether they slept on a sleeping porch, in a well ventilated room or a poorly ventilated room.

"Finally, his statistics showed that

persons who came to California from other climates had just as many colds in California as when they were at home. In other words, climate is not a factor of great importance in the catching of a cold."—*Hyggeia*.

USE OF VACCINES IN PNEUMONIA

In the world of disease and sickness this is becoming more and more an age of serums and vaccines. The young physician just out of his siege of internship who cannot entertain his friends days on end with a learned discussion of this or that serum or antitoxin, or vaccine is simply not in the running. It is a day of biologicals in medicine as well as theology. The medical literature is simply full of such expressions as "Anaphylactic reactions" "protein sensitization" and so on. All of which means that the world is making progress, and that as the years go by there will be many other epoch making discoveries from which the mass of mankind will benefit in its slow journey toward the destiny "To which the whole creation moves."

Every year at this season there is hardly a community but loses some of its citizens from pneumonia. Often among them men and women in the prime of life and usefulness. Research workers everywhere are constantly striving to perfect a vaccine or serum that would mean to sufferers from pneumonia what antitoxin is to diphtheria. In commenting on the experience so far obtained with what laboratory technicians call mixed vaccines, the recent statement of Dr. Alexander Lambert of New York, a former President of the American Medical Association, should be of interest to physicians especially. Dr. Lambert's observations were published in the *Journal* of the American Medical Association last summer under the heading of

"Use of Mixed Stock Vaccines in Pneumonia"

"Two hundred and twenty-one cases of pneumonia were treated with mixed stock vaccines during the same time that other patients were treated with pneumonia antibodies, and with pneumonia serum. There were also for com-

parison 286 control cases of pneumonia in which no specific treatment was given, and the patients were sick simultaneously in the wards. The vaccine used was a mixed stock vaccine sterilized without heat, containing one million bacteria to the cubic centimeter. It contains 200 million of Pfeiffer's influenza bacillus, 100 million pneumococcus, 100 million streptococcus, 200 million micrococcus catarrhalis, and 200 million each of Staphylococcus aureus and Staphylococcus albus. There are 160 different strains of these different bacteria in this vaccine, including forty different strains of the four different types of pneumococcus. The dosage given has been from 1 to 2 c.c., usually 1.5 c.c., intramuscularly, every six hours as long as the temperature was above 99 F., and when the temperature fell to 99 F., the dose was cut every twelve hours for one or two doses, and then to once in twenty-four hours for one or two days, and the vaccine treatment ceased. The effect of vaccines in pneumonia differs greatly, according to whether they are given early or late in the disease. Transportation also has detrimental effect on hospital patients. Therefore treatment of these cases is put to the severest kind of test. Besides the specific vaccine treatment, these patients have been given digitalis or whatever cardiac stimulation was necessary, or needful medication for troublesome bronchitis. Mortality in the vaccine treated cases was 21.2 per cent, compared to 40.5 per cent in the controls. Six of the vaccine treated patients and sixteen of the control cases came in moribund. Subtracting these deaths, it leaves 19 per cent in favor of the vaccine cases, against 37 per cent in the controls. The mortality rate is lower in the vaccine treated patients, the earlier it is administered. If given within forty-eight hours, the mortality rate is 5.8 per cent; if in the first seventy-two hours, 9.8; after the

first seventy-two hours, the mortality in the vaccine treated cases and the control cases was nearly the same. The great advantage of vaccine lies in early treatment and has no relation to type of pneumococcus. In the controls the death rate was higher in types 2 and 3. Clinically, the effect of the vaccines has been distinctly that of diminishing the severity of the disease, rather than shortening its course, or other effect. No febrile reaction followed the use of these vaccines. After the vaccine dosage, there was diminution in temperature, in pulse frequency and rapidity

of respirations, compared with the controls. The advantage of vaccines, compared with other specific treatments of pneumonia, has been that there is no protein reaction following their use, no rise in temperature and dangers resulting therefrom. There is no anaphylactic reaction and no limitation to any special type of pneumococcus. They are easily obtainable and are readily available by the profession. They must, however, be used early in the disease, in sufficient amounts, and sufficiently often in each twenty-four hours to be effective."

VACCINATION AND SMALLPOX

A representative of the United States Public Health Service in Raleigh last summer made much of the fact that so much smallpox had been reported in this State during the previous year. He used the prevalence of the disease as an argument against the policy of the State Board of Health in not recommending quarantine.

The position of the State Board of Health is that smallpox is a strictly preventable disease through the simple utilization of vaccination, and that quarantine is simply a concession to ignorance and prejudice and furthermore that it only affords a false sense of protection, because of the impossibility of quarantining every person who contracts the disease before such person has already come in contact with other susceptible people. In short quarantine is only a makeshift at best whereas vaccination is practically a safe and certain protection.

The only real argument used in recent years against vaccination is that the mild form of the disease does not upset the patient much worse than the discomfort following vaccination. The main thing to remember is that while most of the cases in North Carolina recently have been of the mild type, quite a number of virulent cases have occurred right along with each mild outbreak; and that vaccination protects against both forms. In connection with the foregoing statements it is interesting to note the sentiment now existing in California concerning quarantine and vaccination.

Says the Health Department Bulletin of the City of Sacramento—

"During January of this year a graduate nurse in Sacramento was exposed to a case of the virulent type of the disease. She was advised to be vaccinated immediately. She absolutely refused to submit to vaccination, contracted the disease and died. This young lady's death should be charged to the indifference of those responsible for her student training.

"Epidemiologists believed that the mild type of smallpox might become malignant until experiment proved that at least two distinct strains exist, one a mild type which never becomes malignant, the other a malignant type which never becomes mild.

"We believe that the burden of the responsibility for the control of smallpox should be shifted from the Health Department to those who refuse vaccination. During an epidemic of this disease a vast amount of time is consumed in quarantining cases and running down contacts. Quarantining a case of smallpox gives the public a sense of security not borne out by the results obtained. Most of the criticism heaped upon those attempting to protect the public health for their failure to control smallpox comes from those who refuse vaccination. We are of the opinion that better results would be obtained if cases of the so-called mild or non-malignant type of the disease were not quarantined. All cases should be reported and the public informed of the situation. The public must be taught that vaccination is the only preventative for smallpox."

POINTS ON CHILD BEHAVIOR

BEING A PROPER PARENT IS THE MOST IMPORTANT JOB ANY
OF US HAS

By LAWSON G. LOWREY, M.D.

Director, Child Guidance Clinic No. 2, National Committee for Mental Hygiene

[We have never published a more interesting and instructive article, especially to teachers, children and parents, than this from the Mental Hygiene Bulletin. We wish to urge every teacher to first read it through carefully, and then send it in turn to the parents of every child in the grade, with the special request that they read and ask themselves the questions Doctor Lowrey so pertinently propounds.—Editor.]

1. *Do I Cause My Child To Be Nervous?*

2. *Do I Cause My Child To Disobey?*

3. *Do I Cause My Child To Have Temper Tantrums?*

4. *Do I Cause My Child To Be Dishonest?*

5. *Do I Frighten My Child So He Becomes Timid And Fearful?*

Most parents would promptly answer "no" to all the above questions and would resent the implications contained in them. Yet child-guidance clinics and physicians and psychologists who make a special study of behavior problems in children are constantly encountering situations in which parents are clearly responsible for just such reactions in children. Of course, no intelligent and thoughtful parent deliberately sets out to do such things, but even the most intelligent often do not consider all the angles of the problem involved in the relationships of parent and child. The result is that the parent is all too frequently the direct cause of distressing behavior in the child.

In the following columns, remedies as well as preventive methods are discussed; but one should remember that it is easier to prevent the development of unhealthy behavior than it is to correct it.

1. "NERVOUSNESS"

Do I Cause My Child To Be Nervous?

By: Being nervous myself? Telling him about it so I may have his sympathy? Constantly reminding him how nervous he is? Telling other people in his presence how nervous and queer and odd he is? Worrying over his

health and habits? Worrying him with my worries over him? Coddling him physically and mentally? Denying him independence of thought and action? Expecting too much from him and driving him all the time?

*If You Think Your Child Is Nervous,
First Be Sure Of Yourself*

From early infancy some children are "nervous." They are fussy, irritable babies; delicate, sensitive, easily upset children; they become easily flustered, excitable adults. Such children demand the utmost in placidity and patience from their parents.

Most "nervous" children are, however, the product of the management given them. Their parents do some or all of the things listed above: Nervous parents expect, and so cause, nervous children. They constantly remind the child of this. In their own nervousness they set an example, and it usually is imitated. They communicate their worries to the child, who increases them many fold. They cannot permit the child to lead a life of his own, and either push him to the extreme limit, or do all the thinking for him.

Cultivate calmness. Do not fuss at the child. Give him peace; an opportunity to do things and learn for himself. Use your common sense; recall your own childhood; be patient and kind. Settle your worries in some other way than by passing them on to the child. Know your child; his interests and capacities; his weaknesses and strong points. Above all, be yourself as calm and peaceful as you can. If you have any of the habits or attitudes listed above, change them.

2. DISOBEDIENCE

Do I Cause My Child To Disobey?

By: Uttering useless or unreasonable commands? Contradicting my own commands? Threatening him (and never carrying out the threat)? Stopping everything he starts to do? Refusing his requests, even though they are reasonable? Paying no attention to what he does until it interferes with my comfort? Promising and failing to keep my promise? Making him want to disobey for the sake of the excitement it creates? Evading my own duties and responsibilities? Constantly expecting disobedience? Quarreling with him over trivial matters? Failing to make him understand?

Disobedience is Usually The Parent's Fault

Disobedience means a failure to yield to authority, yet children are ordinarily quite willing to accept authority; indeed, some are even too eager. Many times the parents feel that the child *must* yield to them, but fail to see that their demands are absurd and unreasonable and would not be tolerated by themselves. Many people destroy obedience by issuing a whole series of confusing, often contradictory, commands, which they are quite unable to follow up, or even to remember. Then, when an important matter comes up, one such that obedience by the child is absolutely necessary, the child has no way of distinguishing this from the thousand unimportant matters with which he is harassed. Trouble results. Often he is then severely and unfairly punished. So he justly concludes that he might as well continue to do as he pleases, since his own rights are never considered.

Some children always get "no" for an answer to their requests. They are stopped from doing anything they start, even though it be of great importance to them. They are hedged in by constant restrictions from everything that their need for play and activity prompts. Surely they are not at fault when disobedience occurs.

The example of the parent should be clean and square. Care should be taken that the child understands just what is wanted. The parent's attitude and

speech should imply that obedience is expected. Care should be taken not to interrupt an activity important to the child for a matter trivial even to the adult. So far as possible, time should be given to finish an activity and warning given ahead of the time.

Infancy is the golden period for setting up proper habits of obedience. Do not expect that you can permit a small child to do as he pleases on the theory that "he will outgrow it later." Of such material are "incorrigible" children made.

It is unnecessary and most undesirable to obtain obedience by fear. Threats of excessive punishment lead to contempt or to a fear capable of causing serious mental difficulties. Love, faith, calmness, and care in enforcing your worth-while demands and making no others will turn the trick. Above all, be perfectly fair and just. If you are, you will frequently scold yourself.

A girl of ten is called "incorrigible." She is of average intelligence and physical development. Adopted in infancy, she had the indulgent treatment so frequently given only children by nervous mothers, with the result that she became arrogant, restless, and finally the family realized that she would not obey. When she started to school, her behavior became worse, as is usually the case with overindulged children who have no habit patterns to guide them in adjustment to strangers. Her problem became distressing to the foster mother, who found herself unable to cope with the growing child. Ever since the child was eight, the mother has tried to have her "sent away." She has nagged and fussed at the child; tried all sorts of punishments, some of great severity, all without effect. To explain the behavior, we find only the faulty handling of the parents. They have what they have made, and now are unable or unwilling to face the problem fairly and squarely.

3. TEMPER TANTRUMS

Do I Cause My Child To Have Temper Tantrums?

By: Setting an example of temper tantrums? Scolding and nagging and thrashing him when I am angry? Impressing on him what a fearful temper he has? Constantly changing my atti-

tude so he never knows what to expect? Keeping him overexcited? Not giving him enough rest? Giving him his way when he has a tantrum? Bribing him to stop?

*The Constant Use of Temper Tantrums
By a Child Is Always the Fault
of The Parent*

A certain proportion of temper tantrums are due to physical illness, but the vast majority are due to methods of handling. Whom shall the child pattern after, if not the parents? Did you ever stop to think what wintry bleakness surrounds the child if the parents are selfish, inconsiderate of each other and the children, fly into violent rages, repress all play and affection? They *will* be like you—much more so than you think. Indeed, grandmother can often tell you just how much they are as you were at their age! So they will imitate your temper reactions. Or, if they are all set and ready to do something and you simply say "no," giving them no outlet, they have some energy ready to go somewhere. So it often goes into temper.

Tantrums are usually developed as a means of gaining an end. As an infant, crying attracts attention of various kinds. Later this is not enough, and the child develops a temper, which forces submission from the adults. It is used more and more and becomes an established habit of reaction. It may readily be avoided. Set no pattern. Do not yield just because the baby cries or has a tantrum. Be firm and fair and calm. Do not irritate the child just because you are irritable. Ignore the tantrum when it occurs, and keep on ignoring it until the child quits using it as a weapon. For that is what it is—a weapon. Meanwhile, be sure the child has enough rest, sleep, play, and food. The overtired, overstimulated child is irritable and overactive, which produces more fatigue. Above all, do not bribe the child or try physical punishment. Ignore the tantrum; but be sure you do *not* continue to set the example. It will take courage to straighten out yourself; but it is vastly worth while.

When Joseph was a baby, his mother rocked him to sleep every night, often spending most of the night rocking him.

Thus a fussy baby became conditioned to get everything he wanted by crying and rousing the house. Joseph's father is an irritable, morose man, who is annoyed by many trifles. Then he bangs the table, breaks dishes, beats Joseph unmercifully for minor offenses, and otherwise makes a great display. So Joseph copies him and tries to wreak his will and vengeance in the same way. And thus he becomes a clinic problem in treatment—a most difficult one in view of the example set.

4. DISHONESTY

Do I Cause My Child To Be Dishonest?

By: Lying to him? Lying to others in his presence? Over stimulating his imagination? Evading his questions? Telling him ANYTHING to get him to do what I want him to do? Boasting before him of some dishonest practice by which I gained an advantage? Refusing him most of the things he wants? Dealing out harsh treatment for minor offenses? Repressing all natural outlets for activity? Shielding him from all consequences of his dishonesty? Stealing, or actions which he interprets as stealing? Making a hero of someone noted for dishonesty?

*It Is Remarkably Easy to be Dishonest,
Even With One's Self*

The habit of lying is always built up in response to the environment. Parents who are harsh in discipline, who do not stop to distinguish between the trivial and the great, between unavoidable mistakes and direct disobedience, who constantly expect lying (usually because of their own), are apt to have children who lie. As between telling the truth, with consequent severe discipline, and telling a lie, which may carry through, which would be the common choice? Many lies are expressed in the cradle, as Mark Twain said. The unhurt baby cries for attention—and gets it; all sorts of reactions later develop.

Some lying has its roots in the imagination. The imaginative life of the child is highly developed. In his play he constantly builds up his inner fancies to a point where his desires and pleasures become real to him. So, too, can he deny the unpleasant, just by words of his own arranging. In these ways we get the erection of fabrica-

tions, unusually pleasant, always expressing in some way underlying wishes. Usually his fabrications are such as to give the child some feeling of superiority to his fellows.

There are here two types of untruths. First, there is defensive lying aimed to protect the individual from consequences. This often tends to shift blame to others. The other type is the fabrication—a built-up picture, a projection of wishes and desires into realization in *words*, which if repeated often enough, bring firm belief. Both these types occur at some time in practically all children. Wisely handled, with a minimum of emotion and fear-provoking methods, they soon disappear.

Never provoke defensive lies. It is quite unnecessary. The imaginative lies indicate things wanted by the children. These, or some other *real* outlet, should be provided. Normally, fabricating ceases with the development of realistic life. It is not necessarily undesirable.

Stealing has many meanings. The small child has little realization of "mine and thine." It must be built up in him slowly and patiently. In this period he takes what he desires—hardly stealing. Later, bolder children may resort to the same method of fulfilling desires. Here the training patterns established by the parent are especially important. Children steal because they are expected to; because of urgent physical needs; to gratify desires; because of buried conflicts and tensions that are relieved by the act; to revenge themselves on parents or others; because they are trained to do it, either by example, or because this is the only way they can get things at home; or to obtain means of acquiring the respect of their companions.

Another boy comes from a hard-pressed family. His father is an inefficient worker. An older brother is a thief. The boy is fully aware of the family difficulties. In school he is viewed askance and is expected to steal and lie. He does. He has ample patterns and very poor training in ethical standards. As he is slow in learning, he is denied the compensation of superior performance in school. Being strong physically, he is quite a bully. To escape his school discomfort and

to demonstrate his independence, he plays truant. Lying gets him out of uncomfortable situations. Further, extravagant stories of his prowess and adventures gain much attention and admiration from the other children. His ability at stealing also excites their admiration, particularly since he spends his gains on them, thus making a great splurge. And so the vicious circle of evasion, lying, stealing goes on, giving him the satisfaction denied through more legitimate channels.

Another boy disapproves of a number of things his father does. He feels himself neglected and unwelcome in the home, as he undoubtedly is. He sometimes steals things he wants but cannot get from the father, despite an ample income. More frequently, however, he steals things he does not want because "father will have to pay for them"—a clear example of the revenge motive.

A girl of seventeen is troubled at times by "bad thoughts." She becomes rapidly more tense, somewhat unclear in her mind; feels compelled to "do something." Usually she takes some object. The doing and the risk produce some emotional excitement. Afterward she is clear and calm. Here an emotional complex, having nothing to do with stealing, determines the activity. Stealing is a substitute act for discharge of emotion.

5. FEAR

Do I Frighten My Child So He Becomes Timid and Fearful?

By: Threats of the "bogey-man?" Threats of leaving him? Threats of horrible punishments? Telling him frightening stories? Inflicting my fears and terrors on him? Constant worry over his minor accidents, ailments, and habits?

Fear Is Our Most Important Emotion; A Little Goes A Long Way

It is a sure sign of weakness to resort to threats to gain obedience from a child. When threats are not carried out, because to do so would be utterly impossible, or because so many are made that they cannot be remembered, they soon lose force. At first they work, because the child fears something may actually happen. Later, they are either disregarded or become imbedded and

cause pathological timidity and sensitiveness. Mothers play on the love of their children and threaten them with its loss. What wonder that love itself soon begins to mean nothing to the child? Then the parent complains of the child, when really the parent is at fault.

The fearful child has a serious handicap. Fear of the dark, fear of animals, fear of people, fear of mysterious and unknown forces—all these are trained into the child by the parents, who have the same fears, or expect these fears in the children, or implant them in the child by threats.

People threaten the child with the doctor. They threaten him with medicine. Then, when a doctor or medicine is needed, the child is in a panic. Never threaten a child with something which he may presently have to experience for his own good.

One mother threatened to throw her child from a third-story window. Many other threats are just as absurd.

Sometimes terrible punishments are carried out. One family wanted to break a boy of six of a habit. They punished and threatened with no effect. Finally, a ghostly figure woke him at night and carried him out of the house and left him alone in the dark. He does not know that his sister was the masquerader. *He does know that there are ghosts.* He is frightened by all sorts of things. Most of his mental effort is absorbed in terror. So he does poor school work and fails to get along well with other children.

A boy of four never falls asleep but that he dreams he has been carried away by the "bogey-man" and thrown in a deep pit. He awakens shrieking and holding on to his crib. His mother continues to threaten him with the "bogey-man."

A boy of ten misses school frequently. He is constantly concerned about his health. A minor ailment or a little scratch makes him sure that he is going to die. His mother takes his temperature every day. She keeps him in bed for the slightest ailment. She doses him constantly. She continually worries over him. She never lets him go out unless he is overclad. He is her only child, and he gets the full burden of her worries. He receives so much attention that he craves it wherever he is. He is a semi-invalid, though actually a strong and healthy boy.

Let your child have some independence. He can think. Give him reasons. Guide him carefully. Do not terrorize him. Never make promises or threaten a punishment that you cannot carry out. Always make good on your word. Punish him for his acts, not for your own. Train him properly in the first five years, and the rest of the way will be much easier. You must grow with your child. Parents take credit for the desirable reactions in a child—*why not blame for the undesirable?*

Being a Proper Parent is the Most Important Job any of us Has. We Live in Our Children, So it Bchooves Us to do a Good Job.

INSULIN FOR EMERGENCY USE

Doctor Elliott P. Joslin, Boston, Massachusetts, who is the author of several books on diabetes and who is an internationally known authority on the subject, has recommended to the Massachusetts State Medical Society that every physician in that state should be furnished with a one hundred unit package of insulin to be used as an emergency treatment, when called to see a case of diabetes, until a further supply can be obtained. We pass this suggestion along to the physicians of North Carolina for the reason that Dr. Joslin states to the effect that if a

physician is called, especially out of town, at night say, and finds a diabetic patient on the verge of coma, next morning would be too late to prevent death from coma, whereas the instantaneous use of insulin in such cases would frequently be the means of saving a life. Dr. Joslin also insists that insulin keeps for a great length of time, and it is therefore perfectly practicable and easy for a physician not only to carry insulin in his bag for a year without deterioration but that every physician should have an additional supply kept at his office for use without delay when needed.

NATIONAL NEGRO HEALTH WEEK

Sometime ago Surgeon General Cumming of the U. S. Public Health Service announced that National Negro Health Week would be observed this year from April 3 to 11. The U. S. Public Health Service and all of the different state boards of health throughout the country heartily endorse the observance of this week. One notable item which is deserving especial mention is the very hopeful announcement by the Surgeon General that the death rate in some Southern States among the negroes had very rapidly decreased during the past few years.

All organizations, and agencies, and people of every walk in life who are interested in the vital subject of reducing the death rate among negroes from preventable diseases, and there-

fore materially benefiting the whole population as well as the negroes, are urged to coöperate with the leaders of the negroes in every community, such as negro physicians, school teachers, and ministers, in an endeavor to make this year one of the most successful heretofore.

The State Board of Health will, as usual, supply general literature on the subject of preventable diseases applicable to all the population. This literature in reasonable quantity may be had free of charge from the Board of Health offices at Raleigh, provided assurance is given that it will be distributed carefully and systematically to the people who may be reasonably expected to profit by receiving it.

RURAL SANITATION

By H. E. MILLER, C.E. *

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Introduction

Distribution of Population

North Carolina had a population of 2,559,125 in 1920 and has an estimated (U. S. Census Bureau) present population of 2,812,000, 30.4 per cent of which is colored. The greatest proportion of colored population exists in the coastal plain and central section, where cotton and tobacco are the leading farm products. The colored population steadily decreases from the coastal plain in the east to the mountains in the west where there are many sections without a single colored person.

The State is 85.0 per cent rural on the basis of the Federal Census Bureau classification. There is no city that exceeds a population of 75,000. There are 238 public water supply and sewerage systems available to 818,161 persons, 29.1 per cent of the total population of the State. There are also 316 industrial villages, unincorporated and other unincorporated places with a total population of 310,718. See Fig. 1.

Climatic Conditions

The climatic conditions range from a very mild, almost tropical, climate along the coast to the mountain section where snow and ice are common in the winter season.

Soil and Ground Water Conditions

The soil and ground water conditions vary from the coastal plain sand with high ground water tables through sandy loam and red clay to the mountain slopes with disintegrated rock thinly covering the out cropping layers of solid rock. We are not, however, troubled with limestone.

Prevailing Private Water Supply

The prevailing private water supply is the open dug well, usually quite open, equipped with the famed "old oaken bucket," except in the sandy areas of the coastal plain where driven pipe wells equipped with pitcher pumps are the common practice for private water supplies.

* Before the Rural Health Work Session, American Public Health Association at Buffalo, October 13th, 1926.

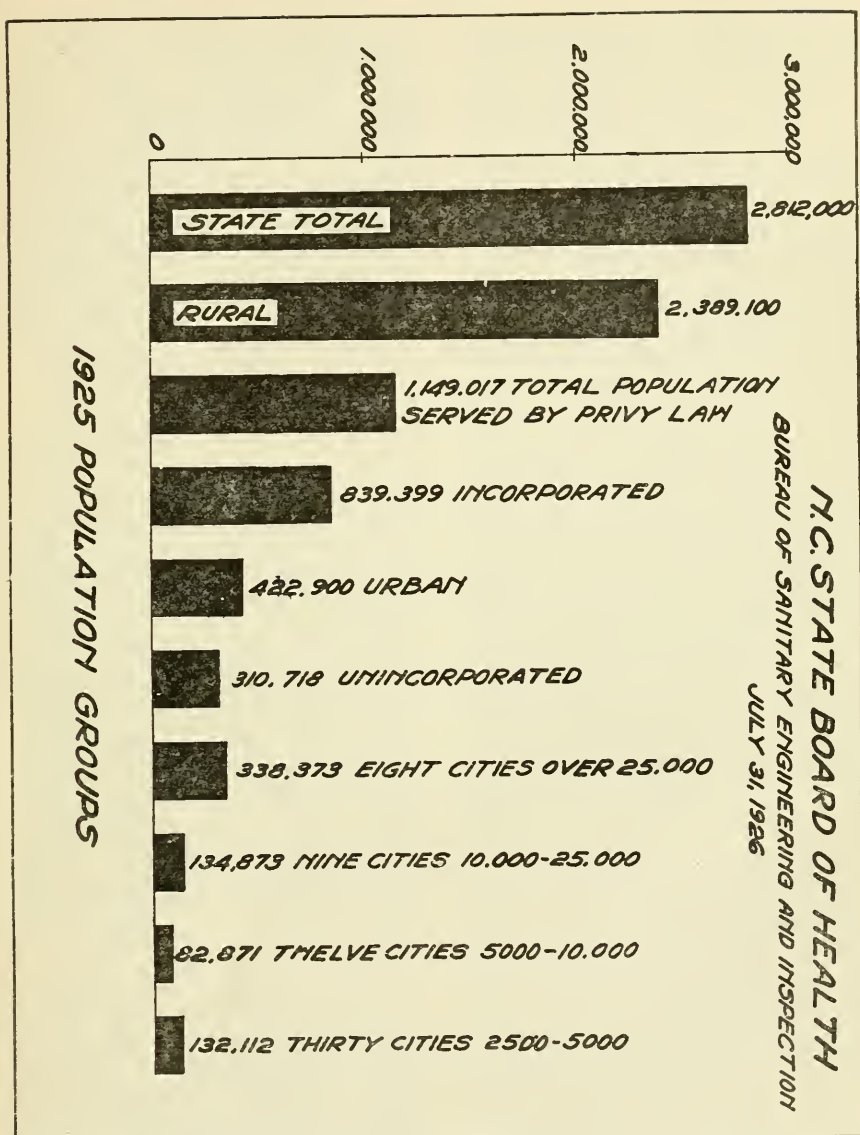


Fig. 1

History

There were several important factors which made the adoption of the North Carolina State Sanitary Privy Law possible and facilitated its effective enforcement.

Effect of Health Education

First and foremost among these was the health educational work inaugurated by the late Dr. Richard H. Lewis,

and developed into a powerful factor by Dr. W. S. Rankin, for sixteen years State Health Officer. The North Carolina "HEALTH BULLETIN" has been outstanding in that its contents have always been entirely of material written in lay language for consumption of the average citizen. The BULLETIN is sent only to those who request it. There is an abundance of evidence to indicate that these bulletins are generally read

before they reach the waste basket, the common destination of such literature. *Effect of Law Enforcement Precedent*

Another factor of especial importance in the success of an undertaking of this character was the well established public recognition of the fact that all North Carolina health laws had been actually enforced. The State Board of Health had rigidly followed the policy of asking for no statutes that it did not intend to enforce. There have been and are no dead letter health laws in North Carolina. A state is far better off without any statute for the enforcement of which adequate machinery is not provided.

Early Developments in Sanitation

For many years the danger of the typhoid fly was a major theme of the BULLETIN. In view of the common repugnance against the mention of privy in public, the awakening of the public interest more generally manifested itself in different communities in the form of "swat the fly" campaigns sponsored by the local physicians and progressive citizens. In many instances the State Board of Health succeeded in getting this energy directed into the more productive channels of sanitation campaigns. By such means more or less successful campaigns got under way in the larger cities and in some other communities. The first attempts at constructing fly-tight privy systems took place about 1910. It is interesting to note also that the cotton mill companies were among the first to recognize the value of privy sanitation. One of the first box-can privy systems in the State was installed by a large cotton mill company in 1910 for their village of about one thousand homes.

Inauguration of Hookworm Eradication Campaigns

Dr. Rankin did his first hookworm work in 1903, but the hookworm eradication campaigns were inaugurated about 1910. The educational work in sanitation done in conjunction with these campaigns which were carried on intensively for several years exercised a potent influence in the interest of sanitation.

Origin and Character of the First Whotefime County Health Units

The first whole-time county health units, established in 1911 and for several years thereafter were county sanitation units, manned by a physician health officer, and one or more sanitary inspectors, concentrating on hookworm work and the construction of sanitary privies. Four of these, not the original four units, had county-wide rules or ordinances compelling the installation of sanitary privies. One county had an annual sanitary privy tax, as a means of partially financing the administration of the work.

The Adoption of a State-wide Sanitary Privy Law

On the 24th of February, 1919, the General Assembly ratified an act now known as "The State Sanitary Privy Law." In the interest of a better understanding of the discussion of the work under this law, sections 2, 4 and 5 are here quoted as follows:

"Sec. 2. No person shall maintain or use a residence located within three hundred yards of another residence, that is not provided with sewerage, or with septic tanks approved by the North Carolina State Board of Health, or with a sanitary privy which complies in construction and maintenance with the requirements of this act: *Provided, however,* that nothing in this act shall curtail the right of a municipality to require and enforce immediate sewer connection.

"Sec. 4. Every privy located within three hundred yards of the residence of any person other than that of the owner or tenant thereof, shall be maintained in a sanitary manner and in accordance with reasonable rules and regulations to be prescribed by the North Carolina State Board of Health and posted in suitable form inside of the privy by an officer of the said Board.

"Sec. 5. The head of a family or household, the proprietor of a boarding house, hotel, restaurant, or store, the principal or superintendent of a school, the agent or station-master of a railroad station or depot, or the person in charge of an office building, establishment, or institution, shall be responsi-

ble for the sanitary maintenance, as prescribed in section four of this act, of such privy or privies as may be used by his or her household, guests, customers, pupils, passengers, occupants, employees, workers, or other persons."

Among the other sections, one section specifically provided the machinery for enforcement, and another established an annual tax of forty cents per privy to provide the funds for execution of the statute.

The Administration Problems, Procedure and Results

The time available does not permit a thorough treatment of this problem in its various phases. In view of the fact, therefore, that we have observed that public health workers visiting the State to observe this work indicate a major interest in the methods of administration that have secured the enforcement of a state-wide privy law with comparatively little friction, and further since volumes have been consumed in the *Journal* of this Association and elsewhere in detailed discussions of various types of privies, the scope of this discussion will be confined to the administration problem and methods, indicating some of the more outstanding public health benefits resulting both directly and indirectly from the enforcement of privy construction and maintenance conforming to State regulations.

Types of Privies Approved

Regulations providing for five types of approved privies with detailed specifications for construction and maintenance of each type were prepared. Designated in the order of the least desirable first, as then considered, they are the Earth Pit, Box-can, Double Compartment Concrete Vault, L. R. S., or Septic, and chemical.

In our initial studies in connection with types of privies to be approved it seemed that the tendency of each recognized exponent of sanitary privies was to be a "one privy" man, zealously defending his special type of sanitary salvation against all others. We sought the merits of each type of privy and specified the five types enumerated

above with detailed specifications for each, and attempted to fit the type of privy to the conditions in each case rather than promote any one type as a "cure-all."

Initial Reaction

On October 1st, 1919, the inspectors went into the field in the enforcement of the law and regulation, and the collection of the forty cents tax. There had been much speculation upon the possible public reaction, and the whole inspection organization approached the task with fear and misgivings. As might be expected, every conceivable variety of reaction was encountered. It is reasonable to assume that in the first year, the inspectors heard more about the living conditions, personal habits, and longevity of life of the grandsires of the present generation than any equal number of men will be likely to hear for several generations to come. It was readily observed, however, that the outstanding basic factors in the reaction encountered were:

1. The prevailing conception of a sanitary inspector, commonly thought of as a broken down political follower, given the job of sanitary inspector because he was worthless for anything else, and as a means of paying a pension out of public funds.

2. The deep seated aversion to tax of any character or in any amount.

3. The feeling that a man's home is his own private principality in which he is not subject to dictation.

4. The common false modesty concerning even the mention of "privy." This factor is of especial importance in view of the fact that in the majority of cases, the inspector has to deal with the better half of the family when inspecting privies.

Do not draw the conclusion, however, that anything like a revolution occurred, for the reaction was far more favorable than was anticipated. The forward looking thinking people asserted themselves, and true to mass psychology the public in general gradually fell in line. There seems to be a particularly well grounded respect and ready acceptance, not fear, of state law in North Carolina, and the fruits of the labors of Dr. Lewis and Dr. Rankin were apparent on every hand.

Our experience has demonstrated for a positive fact that public health education does pay.

The Development of the Inspector

As our inspectors developed in experience and demonstrated their individual ability it became apparent that with the right type of man the law and regulations could be effectively enforced with little friction in any community with any type of people. When the department's own problem of the right type of inspector is solved all the other problems of administration collapse like a row of nine pins.

Important Personal Factors

There is a newspaper cartoon that always bears the inscription "Heroes are made, not born." This is not true of sanitary inspectors. "Sanitary inspectors are born, not made."

A good sanitary inspector does not have to be a college graduate, but he must be intelligent and business-like, capable of commanding the respect of any business or professional man. He must have common sense, sales ability and above all things diplomacy. Not only his personality but his personal appearance is an important factor. We do not encourage or condone foppishness, but on many occasions men have been instructed to have their clothes pressed more frequently. We have found it necessary to go into their personal affairs to the extent of suggesting a new suit, or a new car. Where he lives, his associates, and in small towns his regular attendance at church are all matters of vital importance. A man is only expected to work a full working day, but he is on official duty 24 hours in each day that he is on the pay roll.

Men from 30 to 35 years of age make the best inspectors. We have had just one exception to this rule and he was truly a born sanitary inspector. He died on the job and his son is filling his place successfully. The family prides itself on the family record and with just cause. Previous experience has proven of little value because we have not been able to get experienced men who have had the right kind of experience, and in this respect a little learning is troublesome.

Influence of the Mental Conception

The title "inspector," in the literal sense, is a misnomer. "Builder" would be more truly descriptive. Little constructive health work has been accomplished anywhere by "inspection." It seems that, possibly subconsciously, the trend of public health activities and public health practice have been influenced by the definitions of these two words. The complete deletion of these words from the terminology of public health practice would exert a most wholesome influence.

Method of Training Inspectors

A new inspector is first assigned to an experienced inspector and made to build, himself with his own hands, at least two complete privies. He is then allowed to observe the work of the experienced inspector and later, to check completed work under observation and then to make contacts and explain the regulations under close supervision. As soon as he shows sufficient grasp of the work he is assigned a county and his work there is started for him by the chief inspector who stays with him until his first work is successfully under way. From then on until he is fully established the chief inspector returns at intervals not greater than one or two weeks, usually more often. All cases the inspector is not certain of being able to handle are deferred until the next visit of the chief inspector.

Necessity of Complete Compliance

Tax the Major Cause of Friction

In the first year it was found that the public in general responded fairly readily to the idea of improving sanitation but the progress of sanitation was often impeded by the objection to the sanitary privy tax which was collected by the inspectors as the inspections were made. In March, 1921, the General Assembly repealed the tax and provided a State appropriation to finance the work. As a result of this action the major cause of friction was removed and the extent and effectiveness of sanitation accomplished was tremendously improved. This first complete clean-up of the State was on the basis of "patching" existing privies. By the end of

1922 practically the entire State had been covered twice and some sections more than twice, in this manner.

Resurvey Experience With Patched Privies

The resurveys demonstrated, however, that "patch work" as a permanent policy could not be permitted indefinitely and that complete compliance with the regulations would have to be required. The law holds the property owner responsible for construction and the tenant responsible for maintenance. It is not practical to try to hold the tenant responsible for maintenance until after the privy has been made to comply with the construction requirements. In this lenient plan of administration, our inspectors had to keep going back to the property owners for further expenditures, since it was found that on resurveys practically 100 per cent of all privies required some repair or fixing to make them reasonably safe. An old privy not properly constructed is like an old worn out automobile, no matter what you do to it, except tear it down, it is always defective, and giving away in a new place.

Relation of Uniform Practice to Administration Problem

As a matter of safe administration policy absolute uniformity is necessary and it is advisable to reduce to a minimum the instances in which the inspector must render a decision other than to apply the regulations. When a minor deviation from the specifications is permitted, larger ones, will have to be permitted and there is no limit to the extent of violation which must thus be permitted. In the meantime, we had in several communities, carried out the complete construction of all privies in full compliance with the specifications and upon resurvey the following year, the maintenance was uniformly good. In the outlying section of one city there was a colored section of 300 homes. The section was notoriously known for the worthless, troublesome character of its inhabitants. Every home in this section was equipped with pit privies constructed in accordance with the regulations and upon maintenance resurvey the following year, only three privies were found defective

in maintenance. The lids were torn off of two privies, and the third was in a filthy condition. The maintenance violation was 1 per cent under extreme adverse conditions.

In 1923, the reconstruction program was begun and no inspector is now allowed to pass any privy which does not fully conform to the specifications of one of the approved types of privies. This is slow work and the State has not yet been completely covered in this manner. It is expected to complete the construction program by spring or early summer of 1927.

Method of Enforcement

The Development of Public Sentiment

1. No law is stronger than the public sentiment of the community in which it is to be enforced, witness the prohibition law, furthermore;

2. No law which the public does not understand can be successfully enforced.

The first survey therefore was designed primarily to develop public sentiment by individual explanation to make sure that each person knew of the law and its requirements and understood some of the important reasons why he should be required to comply. It was hoped also to secure compliance by that group which needs only to be instructed. More or less conscientious efforts were made by a majority of people. There is, however, a large group of those people who consider themselves a privileged class. This class has to be shown.

Furthermore, there is no respect for any law that does not require the bankers and other commonly termed "leading citizens" to comply. Consequently the next step was to demonstrate that it was actually a law, which was begun in June, 1920, with a series of prosecutions in every section of the State, always taking people of intelligence and means, well known in the community, usually large property owners. When the masses see the law enforced with people of this character they follow without much hesitation.

The Attitude of the Courts

In this connection it is desired to recognize the attitude of the judiciary in all classes of courts. The judges

have consistently supported this statute not only in the literal discharge of judicial responsibility, but in spirit, and many lectures on health and sanitation that would do justice to the most zealous and the most capable health officials have been delivered from the bench. This attitude on the part of the judiciary has exerted a most powerful beneficial influence. The maximum penalty is \$50.00, or thirty days on the county roads, at the discretion of the court. The maximum fine has been levied on several occasions and "Ten dollars and the costs" is a common judgment. In two noted instances the defendant, a man of means prosecuted for failure to comply with construction requirements for some rental property, served the full thirty days on the county roads. In one aggravated case, the defendant, an extensive property owner, was convicted under six indictments, one indictment for each of six houses for which he had failed to provide privies according to regulations. He served a total of six months on the county roads, thirty days for each privy.

Preliminary Procedure

The uniform procedure is to begin work in a community by first making contact with and seeking the interest and coöperation of the local officials. If possible we take them out to personally inspect some of the privies. If it is a community provided with a public water supply or sewerage system, we investigate regarding the possibility of sewerage extension and do not have privies built in areas for which sewer extension is authorized or for which we can secure authorization. If the town does not have a compulsory sewer connection ordinance we endeavor to get one adopted and coöperate with the local officials in its enforcement in conjunction with the privy work.

At least one person who will put the material on the ground promptly for the construction of some privy in a conspicuous location is sought. The inspector donates his services in the construction of the privy and in the process has an opportunity to train at least one, possibly two men in the proper details of construction. Among those who come by to see what is going

on, he usually has an opportunity to make dates for several similar engagements. The net result is that in a few days he has trained a nucleus of builders which rapidly grows, and he has a nice start in the way of properly constructed privies scattered around the community as demonstrations.

Routine Procedure

The routine system of enforcement is as follows: An inspection of the privy is made and an official notice, which also carries the information with regard to what is necessary for compliance is posted on the privy. This notice is dated and signed by the inspector. A second date, designating the date of expiration of the notice thus posted is also inserted. This notice is always five days. The inspector calls back by the home and explains the notice and offers any service or coöperation, leaving a bulletin of specifications with his name and location. In all cases where the property owner or some one in the home is not interviewed, particularly with owners of tenant property, an official notice is mailed. A check is always made immediately upon the expiration of the five day notice. All inspectors are rigidly held to this rule. If the notice is not closely followed, people soon begin to disregard notices. Thousands of prosecutions are avoided by maintaining respect for the official notice. If there is not some definite move made toward compliance, the property owner is seen a second time and given a two or three day extension and for adequate reason he is given a longer extension. If no effort is then made, and the property owner makes no move for further extension or in explanation of his case, a warrant is issued. In the case of property available to sewer, a special notice is posted on the privy. This notice also expires in five days, but the presentation of a bona fide contract with a plumber specifying a definite completion date is accepted as compliance up to the completion date specified, provided the date specified is reasonable, in view of the local situation.

It is not attempted to post notices in excess of facilities for getting the work done. It is necessary to develop

and train men to do this work. Often one inspector will have as many as fifty or seventy-five trained men building privies in the area he is working. Two experienced men should build two pit privies in three days. The best builders working in pairs some times build three pit privies per pair of carpenters per day. Many of these trained carpenters follow from town to town and build privies, but on account of the tendency of the local people to assume that the inspector has some special interest in these workmen, they are discouraged as much as possible against following. It is slower work to train

Potential Value of Complaints

The advertising slogan "every knock is a boost" cannot possibly be more true in any application than it is with respect to sanitary privy enforcement. The most prevalent complaint comes from owners of rental property, who very often have not even seen the privies themselves. We consider that the man who will apply his attention to the matter sufficiently to write a letter of complaint is a potential convert to sanitation, because the subject is actually in his mind. It is only necessary then to guide his mind correctly

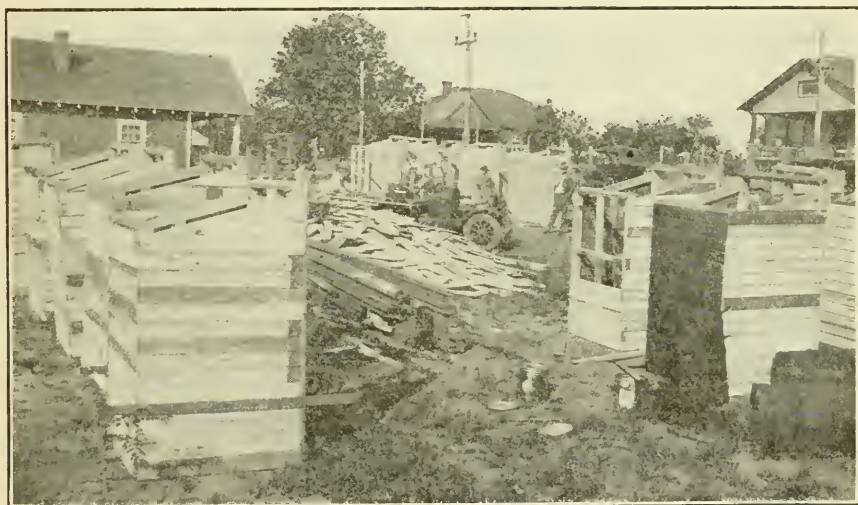


Fig. 2

new builders in each section but it is better policy to do so, and thus trained experienced carpenters are always locally available in the future for pairs, or the construction of new privies. See Fig. 2 (quantity production.)

The inspector offers to show and assist each property owner or anyone he may employ to do the work but recommends that whoever is employed not be paid until the work has been approved by the inspector. There is a special form used by the inspector in approving privies so that the builder can get paid. Checking of completed work before the builder is paid is a valuable service and is greatly appreciated by property owners.

which can usually be done, because we can show him we are right and most people are reasonable after all.

The standard procedure is to have the chief inspector call on the complainant and take him out personally to inspect his own privy or privies and at the same time inspect other privies which are built right and compare. Usually the more vigorous the complaint the more ardent exponent of sanitation the man becomes.

Place, Purpose and Educational Value of Prosecution

Prosecution is invoked only as a last resort, but it is the duty of every inspector to exercise his utmost ability to make a believer out of the defendant

before he leaves the court room. The instances of failure are exceedingly rare, and every case in which the defendant is not converted is charged up against the inspector as a failure, regardless of having won the case and secured compliance with the law. When analyzed sufficiently, there are exceedingly few instances in which faulty diplomacy or salesmanship on the part of the inspector will not be discovered.

Controlling Factors of Practical Privy Design

The Technical Factor

1. No privy is more sanitary than the character of maintenance which may be expected for it under normal conditions.

2. The probable and practical result that may be expected, taking privy psychology fully into consideration determines the merit of a privy.

3. The scientific correctness of the principle upon which the design of the privy is based is not a true indication of the public health protection its installation *will*, not may, afford.

Many types of privies have been proposed, which IF properly maintained might well be considered to approach the millenium in privy sanitation. Such privies may serve fairly well for individual isolated community campaigns, *provided, however*, that the person conducting the campaign gets out of town fairly readily after the installation is completed. For effective results, however, on a permanent basis, maintenance is the true test, and in this, privy psychology is a major factor.

The Human Factor

There are certain reactions that are common to both white and colored, to the high and to the low:

1. All privies that are not free from odor will be improperly maintained. Defective maintenance was formerly considered the cause and odor the effect, but the conditions are, as a rule, reversed.

2. Any privy which is not comfortable to the user will be abused. In earlier privy work, self closing lids were considered practically impossible because they were generally found torn off. The trouble was that the lids were not

properly constructed for the comfort of the user.

3. No class of people takes any pride in or has any respect for a privy which is not neatly constructed and well proportioned.

The Relation of Maintenance to the Combination of These Factors

In any kind of community, the maintenance of privies in which these three factors are not taken fully into consideration will be uniformly poor. On the other hand, if the privy is free from odor, is comfortable to the user, and is well proportioned and neat, the user will take a great pride in it and will not abuse it, but will keep it clean and in good condition. This is not supposition. We have over one hundred thousand (100,000) shining examples of the proof of this fact.

Experience With the Several Types of Privies

Types Recommended

At first the pit privy was not especially encouraged, but the septic, concrete vault and chemical privies were recommended. On account of the cost, these types of privies had little favor with the public except that due principally to the activities of privy salesmen, septic privies were accepted as a general standard by the cotton mills and large numbers of the chemical tank privies were installed in the rural schools. A few schools were equipped with septic privies. The box-can privy was not encouraged except in those communities where this system had already been installed.

Chemical Privies

Today practically all of the chemical privies have been eliminated by the consolidation of rural schools. These new modern buildings are in practically every case equipped with plumbing and sewerage. The chemical privies proved fairly satisfactory. There are now, exclusive of schools, 425 chemical tank privies in service.

Septic Privies

The septic privy, however, is nothing less than an aggravated nuisance under the condition of the usual maintenance received at schools. Practically the

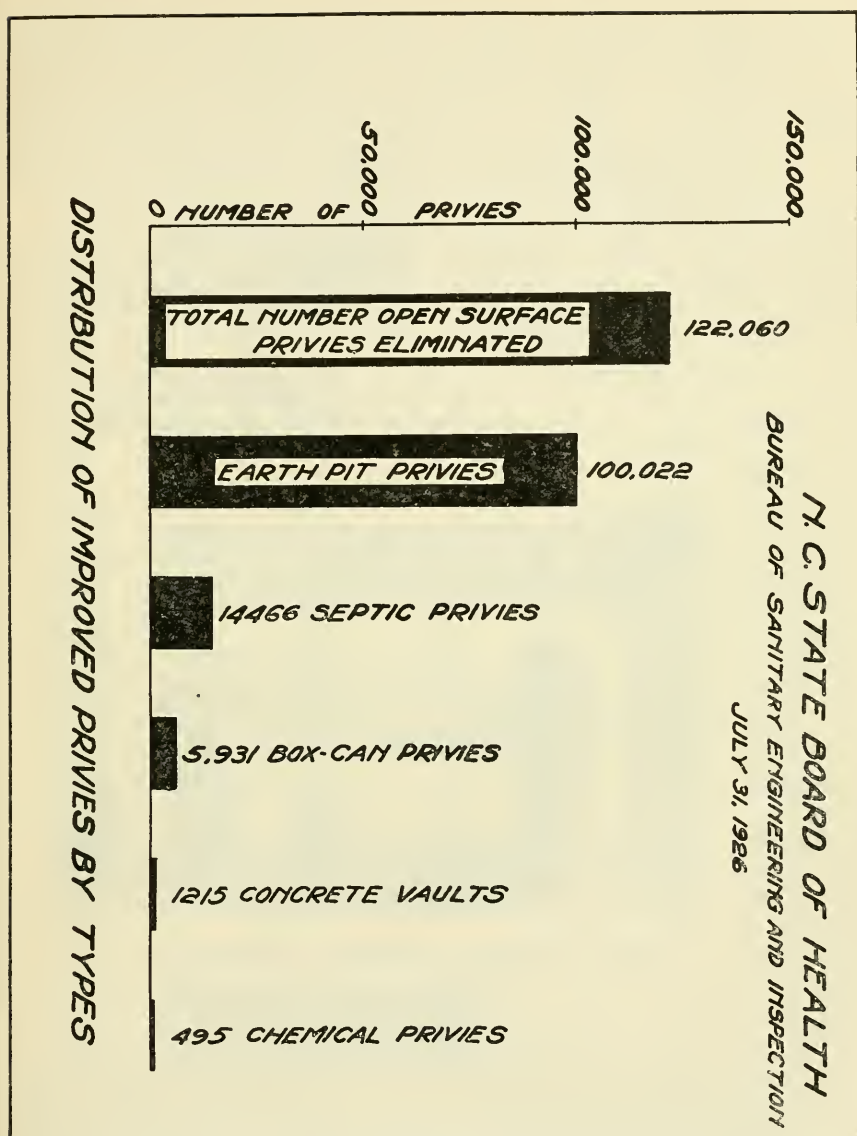


Fig. 3

same difficulty experienced with the septic privy in schools has been experienced with the septic privy in mill villages. In self defense the mill villages using this system usually employ a man or men to maintain these privies. This is very expensive and not very satisfactory. Accordingly hundreds of these privies, in mill villages, have been removed and pits installed. The condition under which the septic privy func-

tions most satisfactorily is at the home of an intelligent systematic careful person who owns the home in which he lives. There are now 14,446 septic privies in service.

Box-Can Privies

The box-can regulations include detailed specifications as to the conduct of the scavenger system. Since most scavenger systems are so conducted as

to create a greater menace to health than the conditions they are designed to remedy, all but four such systems in the State have been eliminated. There are now 5,931 box-can privies in service.

Concrete Vault Privies

In the extra cantonment zone area of Fort Bragg, in and around Fayetteville, there were installed about eleven hundred (1100) double compartment concrete vaults. As a system this type of privy has not proven a practical or economic success. The principal dif-

location that conforms to the regulations is available, the pit is permitted. There are now 100,022 earth pit privies in service. Eighty-two per cent (82%) of all the privies under the jurisdiction of the State law are pits and the ratio is rapidly increasing. See Fig. 3 for "distribution of improved privies by types."

Cost of Construction

Most of the privy construction is done by contract, on lump sum which varies with material and labor conditions. In general the average cost of pit privy

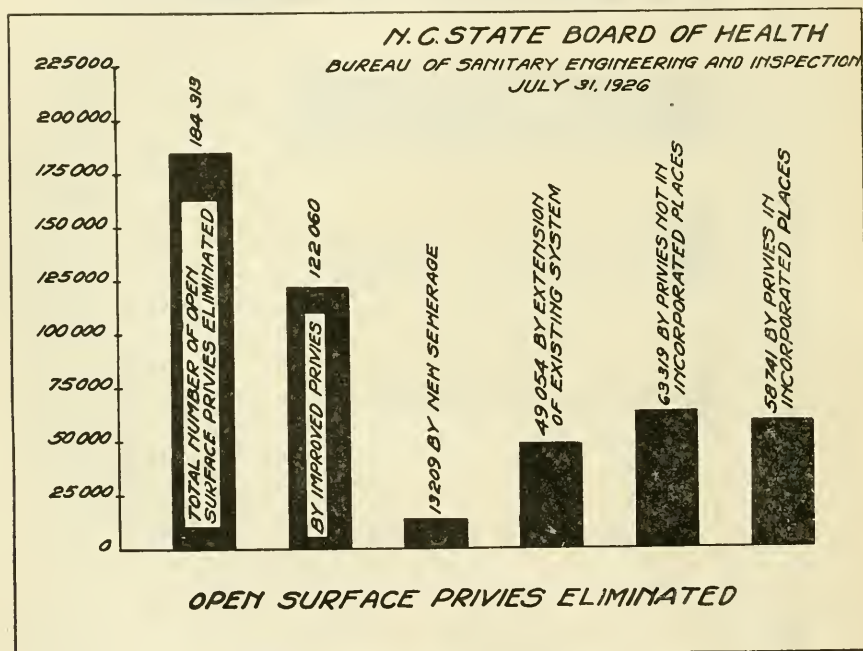


Fig. 4

ficulty in this particular instance was that most of the lots were so situated that scavenging was impossible, hence a pit dug beside the vault, the excreta removed from the vault and deposited in the pit. The concrete vault has an important place, however. It is commonly used when a privy location at a distance of one hundred (100) feet or more from a well cannot be secured. There are now 1,215 concrete vault privies in service.

Earth Pit Privies

When permitted the opportunity of choice the property owner will usually select the pit privy, and wherever a

with building complete is \$22.50, box-can privy with building complete \$22.50, septic privy with building complete \$60.00, double compartment concrete vault with building complete \$45.00, chemical tank privies without building, approximately \$100.00, varying with quotations of the different manufacturers.

Cost of Administration

The enforcement is administered through the Bureau of Engineering and Inspection with one Division devoted to this work. This Division consists of two supervising inspectors, each with other duties, with the equivalent of one man's

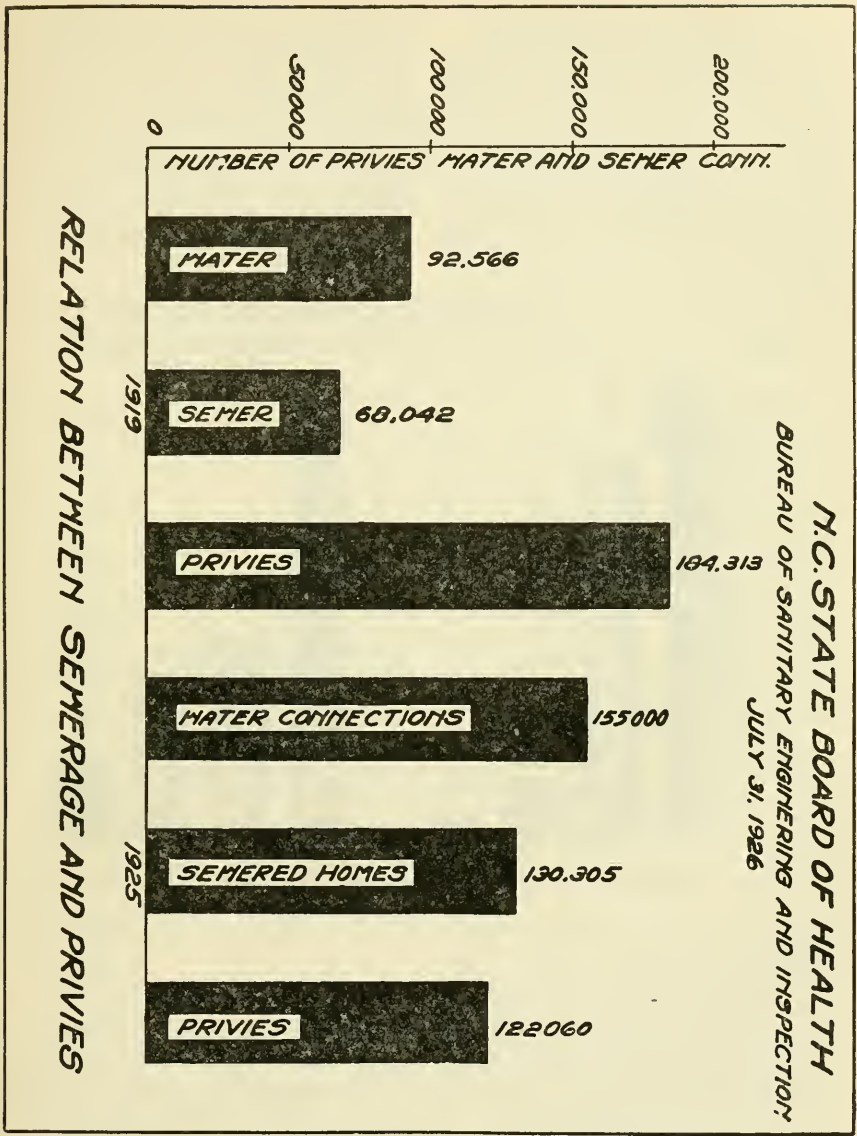


Fig. 5

full time and travel devoted to the field supervision of this work, salary \$2400, and travel \$2500 per year. An average force of ten inspectors is maintained. The salary classification ranges from a minimum of \$1200 to a maximum of \$1500 per year with a uniform flat rate travel allowance each of \$600 for transportation and \$840 for room and meals. Three of the present force are receiving salaries of \$1200 per year each, but the

cost is estimated at \$1500 salary throughout. The time and travel of the Director and office overhead is estimated at not in excess of \$2500. The total annual cost of this service therefore is \$36,800. The average administration cost per privy (counting sewer connections enforced by inspectors and private sewage disposal systems as privies) is \$0.68 per privy.

Potential Results in Municipal Sanitation Measures

The administration of this statute has been so conducted as to stimulate and aid in the accomplishment of many other important health measures. The situation is similar to a large manufacturing plant which finds the value of its by-products equal to if not actually in excess of the value of the primary product.

enforcement of privy regulations has been our sole promotion measure. In the beginning, a contract agreeing to postpone enforcement, for one year was signed with all towns in which there was any actual interest in these improvements. These contracts were renewed where definite measures to this end were in progress. 13,209 other open surface privies have been eliminated by these sewerage systems.

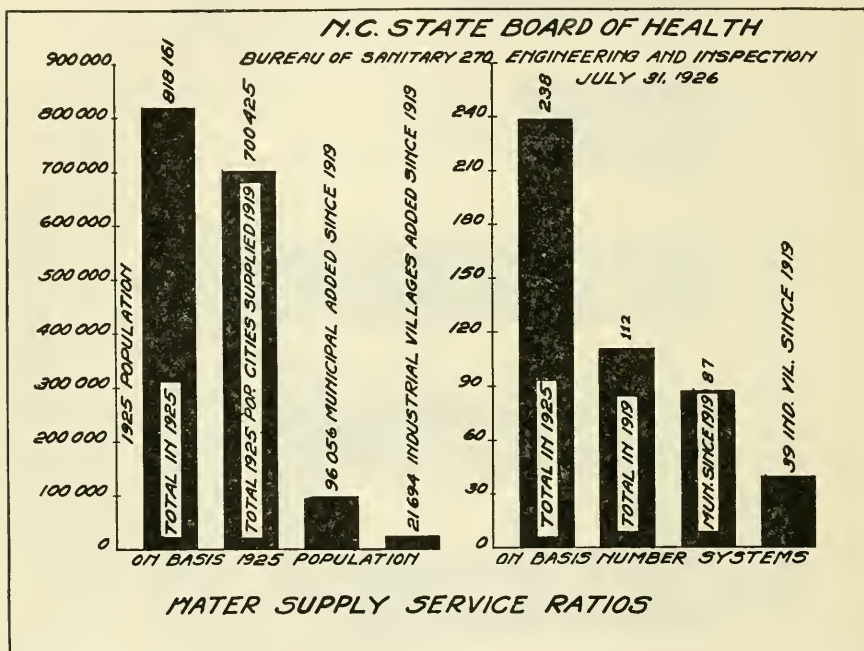


Fig. 6

Open Surface Privies Eliminated by Improved Privies

*184,313 open surface privies have been eliminated. 122,060 have been replaced by improved privies. See Fig. 4.

Open Surface Privies Eliminated by New Sewerage Systems

As a direct result of the enforcement of this statute 126 new public water supply systems and 130 new sewerage systems serving a population of 120,000 have been installed. Some states go so far in the promotion of new systems as to actually prepare tentative plans and estimates of costs as a part of a program of interesting communities in considering such improvements. Rigid

Open Surface Privies Eliminated by Sewer Extension

Sewerage service for practically the entire community is now common practice instead of simply for the business section and a few better class homes, as was the case in 1919. There have been 49,054 other open surface privies eliminated by extensions of sewerage systems which were in existence in 1919. See Fig. 5.

Financial Condition Waterworks System Improved

As a result of more extensive sewerage service the increased water consumption has caused a demand far in excess of the capacity of the system,

* Some of these privies had been replaced by improved privies before 1919.

new modern plants have been installed, and more adequate sources of supply obtained. These developments were made financially possible, in great measure, by the fact that additional revenue from increased consumption brought the system from a position of being financed out of general tax to a self-sustaining basis financed from its own revenues. The improved financial condition of water departments has been an important factor in the success of the program of securing capable, technically trained operators in charge of water purification plants, discussed by the writer in a paper before the American Waterworks Convention at Buffalo this year. A total annual revenue of \$611,670 has been added to municipal water supply system incomes on account of the increased number of sewer connections. See Fig. 6.

Stimulation of Other Improvements in Municipal Sanitation

With this close hand to hand working contract with local officials and in view of the service rendered, their interest and attention can more readily be obtained in other important municipal sanitation measures. This factor has had an exceedingly important influence on the rapid progress in the adoption of the standard milk ordinance by the cities and towns of the State. The first adoption was by a small town, May 10, 1924. Now 75 per cent of the market milk of the State is produced under this regulation.

Typhoid Fever Reduction

The typhoid fever death rate is still too high. Some further reduction by complete privy sanitation with effective maintenance may be expected. The only recognized epidemics that have occurred in recent years have been milk borne. There is very likely much more of such incidence due to infected milk supplies. With the developments of modern civilization, health agencies are faced with materially changed problems of sanitation. Principally, on account of the automobile, the population is more mobile. Formerly the environment of an individual might be circumscribed by the corporate limits of the city or town in which he resided.

Now the scope of the environment which it is necessary to regulate for his adequate protection embraces the length of the highways in all directions.

As a measure of the public health value of the sanitary privies constructed, and sewerage installed, as cited above, the State total, urban, rural and incorporated community death rates are shown in Fig. 7. The typhoid death rates based on the population of incorporated areas are the nearest actual measure of the reductions effected by privy sanitation, that can be based on an official bureau of census population figure.

In view of the fact that "urban" as commonly used in the establishment of rates is based on the Bureau of Census' "urban" figures, the "urban" rates are also shown. The urban colored rate for typhoid deaths has particular significance, since the colored population is exposed to the dangers of defective privy sanitation to far greater extent than the white population. Prior to 1919, exceedingly few colored people enjoyed the privilege of public water supply, and sewerage service, now there is little distinction made in planning extensions or new systems. The result is clearly reflected in the chart. Another factor in the colored typhoid rate is the high percentage of contacts, which is partially due to the fact that, as a race, they fraternize and congregate to much greater extent than white people.

No true measure of the actual effect of the sanitary privy can be had on any official census basis available. Even considering incorporated places, 67,819 privies, 36.8 per cent of the privies replaced or improved have been in mill villages and other unincorporated areas. These serve an estimated population of 310,718, which is 37.8 per cent the corporate population and is included as rural even as compared against all incorporated places, for which no separate division is made in the reporting of typhoid fever deaths. Naturally the rural rate is materially improved and by comparison with the rate for incorporated places, the actual ratio which exists between the typhoid death rates of that portion of the population protected by privy sanitation and that



Fig. 7

portion not so protected, is diminished in the chart, and the error is in favor of the rural rate.

Conclusion

Last, but not least, and by no means secondary, either to the primary objective, or to the value of the by-products in constructive health protective measures is the educational or, if you please, the advertising value of the State sanitary privy law enforcement. Well conducted advertising is essential to any business which would prosper. Is it not likewise true of public health? We call it education, but we borrow our thunder from the advertising manager.

The majority of the homes visited by the inspector are the homes of the non-reading and, often, illiterate population. The publication of a million bulletins would but slightly increase the number of these homes in which public health literature would be read. The inspector visits every one of these homes, and after explaining the bulletin leaves a copy to be read. He posts a notice on the privy. This notice, like the bulletin, bears the name of the State Board of Health. He explains, shows, and even helps to build the privy. The State Board of Health is no longer a vague something off yonder. It is real, represented by a man who actually comes onto the premises. Through him the State Board of Health reaches and talks to the people. Thus in the average mind, in the minds of the mass of the people, the inspector and the State Board of Health are one and the same. Their appraisal of him definitely determines their conception of, and the attitude toward what he represents. Therefore, beware of the type and caliber of men employed as inspectors.

Those who do not respond to this character of teaching are taught by the courts, a measure effective for even the most dense. As a result of these teachings, there remains, in the form of the completed sanitary privy, a visible reminder. It is conspicuous as a symbol of cleanliness and improved living conditions. Every person who enters is faced with the State Board of Health rules of maintenance, and no day can pass without the presence

of the protective influence of the State Board of Health being impressed upon that home.

The sanitary privy exerts a potent influence upon the whole public, farmers, persons living in sewerage homes, and any one who travels in and out, by highway or by rail.

The two most conspicuous things in North Carolina, the two most visible evidences of her progress, and the two things by which one is first conscious of having crossed the border line into the State, are her highways and her monuments to decency.

"AS IN CONGRESS"

"A doctor sent his bill. Then a few days later he received this note:

"Dear Sir:—I do all my business in a congressional manner. When I received your bill, I gave it a first reading. In another fortnight I shall give it another reading and very likely throw it out altogether."—*Journal A. M. A.*

"Only a blind mind fails to observe that some of the best work of the world is being done by persons who suffer from bodily afflictions. This idea should hearten each person who may meet those who are under privileged in health and should so encourage and stimulate his personality that he may convey his message with increased zest to those who are so much in need. It is an individual problem. Put your heart in it."—*Bulletin American Heart Association.*

Ellen, four, had just returned home after her first morning in kindergarten.

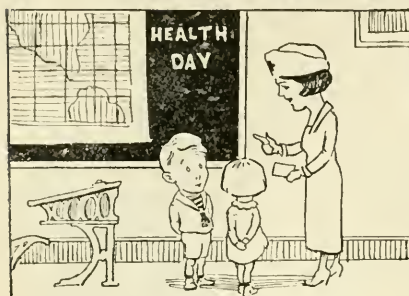
"Well," asked her mother, "how did you like it?"

"I didn't like it at all," she replied. "The woman put me on a chair and told me to wait there for the present—"

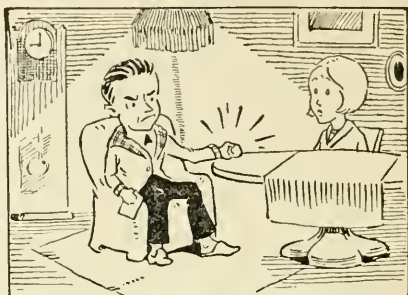
"Well," interrupted her mother, "wasn't that all right?"

"But," continued Ellen, "she never gave me any present!"—*Children, The Magazine for Parents.*

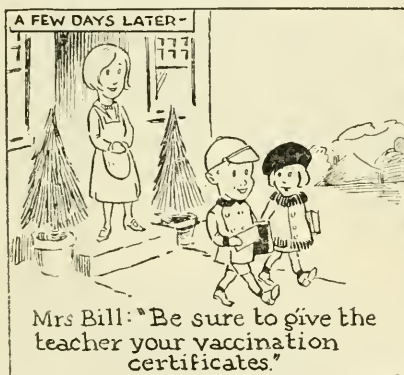
BILL JONES *and* VACCINATION



Nurse: "You children must be vaccinated or you can't come to school"



Bill: "This is too much! I won't have anybody tell me what to do for my children!"



Mrs Bill: "Be sure to give the teacher your vaccination certificates."

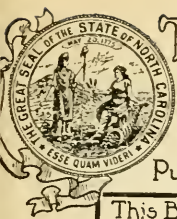


Bill: It's good we decided to have the children vaccinated. This is one thing we don't have to worry about.

Public Health Work is taking the "UF"
out of Life

LIFE

Ten years have been added to the
average human life since 1900



The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

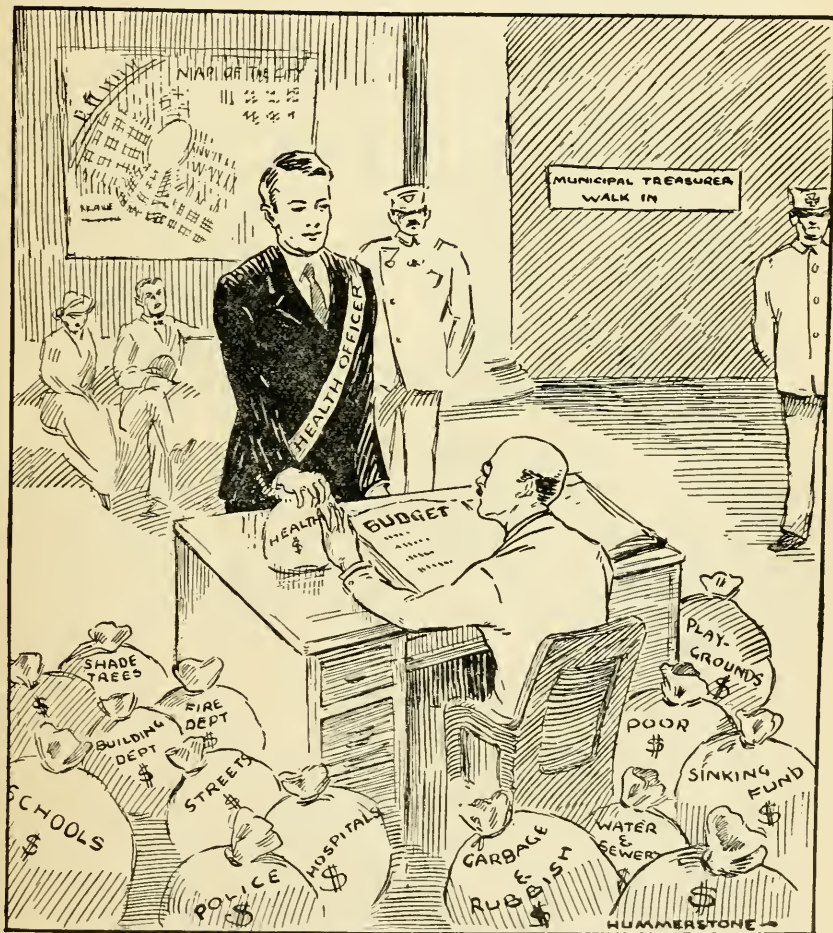
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FEBRUARY, 1927

No. 2



"PUBLIC HEALTH IS PURCHASEABLE"
HOW MUCH SHALL WE BUY?

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
Colds	Influenza	Tuberculosis Placards
Clean-up Placards	Malaria	Typhoid Fever
Chickenpox	Measles	Typhoid Placards
Diphtheria	Pellagra	Veneral Diseases
Don't Spit Placards	Public Health Laws	Water Supplies
Eyes	Prenatal Care	Whooping Cough
Flies		

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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MENACE OF VENEREAL DISEASE

Six Out of Every Ten Young Men Become Infected With Either Syphilis or Gonorrhea Before the Age of Thirty

The thinking citizen of North Carolina could serve the best interest of the State at this time in no better way than to realize the distinct menace to the present generation of boys and girls existing in the widespread dissemination of venereal disease; and then to lend his aid in doing something to stop the spread of these correctly called "Black Plagues." Col. Veeder of the United States Army Medical Department is authority for the statement recently made that fully one-eighth of all human diseases and suffering comes from this source. The Surgeon General of the United States Public Health Service says in an official report that "Syphilis is a greater menace to our infant life than is scarlet fever, diphtheria or influenza."

We wish every parent and teacher in this State could read and study a short bulletin issued by Dr. Herman N. Bundesen, Commissioner of Health of Chicago, under the title of "Everybody's Problem." Among other things Dr. Bundesen says what every careful physician has long known, "I believe it is time that the public should be informed." It is. High time, and past time. A sense of false modesty, of prudery ingrained in the most of us, has prevented a frank warning to our children. The plain truth spoken by the parent or teacher or physician to the boy or girl at the proper time can do nothing but good. In later years such kindness and helpfulness will be valued more than gold or lands.

The teachers of physical education can do a great deal to offset the false impression implanted in the minds of

so many boys by vicious companions. One of the most dangerous declarations of the dirty, vulgar, blowing young bully is the expression every man has heard proclaimed at some time or other: "I had rather have gonorrhea than a bad cold." Such a young fool ought to be pitied and gagged; but the boys do not know that, alas, until it is too late. Another old, smug, hypocritical statement used by pretty well scarred old hypocrites as an excuse to their own conscience is that "Boys must sow their wild oats." Of course it is a lie. And to quote Bundesen again, "There can't be any wild oats if these diseases are to be checked." Whenever a boy or young man goes into the business of sowing wild oats, somebody is directly to blame. It may not be his parents every time. Often it is not. But somewhere in that boy's heredity or environment a cog has slipped. There is a missing link in his mental make up. If our sons sow wild oats our daughters naturally will bear the burden of the harvest. And what of that harvest? Blindness, paralysis, feeble-mindedness, poverty, insanity, dirt, filth, idiocy, imbecility, despair, suicide, sterility, epilepsy, divorce, broken homes, mental and physical cripples, crowded courts, jails and asylums, chronic pelvic troubles in women necessitating dangerous operations frequently causing death, often sterility and always months and years of anguish and suffering, represent some of the fruits. The temple of God is converted into an ambulating human derelict.

Right here and now let us say to the father who happens to read these

words, stop and find out whether or not your boy is one of the four out of the ten who is free from either of these terrible diseases. You can easily find out by simply having him spend ten minutes with your own clean family physician if you have any doubt in your mind after your own friendly fatherly inquiry of your boy.

It is not the woman of the street—the scarlet woman—ordinarily you need fear. If a boy has had any training or warning whatever there is not much danger from that source. The chief danger to the boy lurks in the very young girl of loose morals, often in his class in high school or among his associates. The girl who is undisciplined, highly sexed, ready to leap into an automobile full of strange youngsters and take a night ride for the thrill, emotional, unstable, from the wrong sort of home and above all dangers, pretty, is generally the siren that gets the average unthinking boy. She is the kind that reads trashy literature in the daytime, and undertakes to emulate the cheap heroine at night. She is the kind whose mother insists on presenting her brother with a pocket flask when he starts off to college. (A Raleigh gentleman overheard a conversation between two young college freshmen, mere babies with their freshie caps, in a drugstore not long ago. Said one to the other: "I have a very pretty flask." The response from the second was, "My mother gave me one before leaving home but I broke it the very first night here.") What chance has the boy or girl from that home to escape all the evils on the calendar of the Devil? Not one in a million. But the serious consideration is that such an unbalanced young girl is equally as willing to permit liberties with one of the six infected young men, as she is with one who has thus far escaped. She becomes a carrier of disease. She more frequently moves in fair to good society according to present-day standards, than not. Irreparable damage is done before either boy or girl has reached a really responsible age.

The boy, your boy, every man's boy, must be warned against such a girl before she appears in his circle. Afterward will be too late. Not one warn-

ing is sufficient but repeated insistent warning that character and clean living is not compatible with such conduct.

The most heartbreaking realization of all to many parents is an awakening to the fact that ignorance is no protection to their daughters. No matter how clean and sweet and pure your daughter may be, the chances are at least even for her to marry one of the young men who has been or is now infected.

Safeguard Marriage

Every normal boy and girl expects at some time to marry. They all know, subconsciously at least, that the spark of human life is of Divine origin, that it is a holy trust given to them to carry on their part in the Divine plan. A marriage that does not eventuate in the birth of healthy, happy children, is an incomplete marriage. The only way to guarantee such a happy outcome is to make sure that both parties to the contract are healthy and free from any venereal disease taint.

It is a thousand times more important for the father of a prospective bride to make sure that the man his daughter is to marry is free from any possible taint of syphilis or gonorrhea, than to worry about his commercial standing. On the other hand the parents of the groom if himself a clean young man ought to be more concerned about the clean character of the girl their boy marries than they are about her social standing.

North Carolina has a good marriage law but it has two fatal defects when it comes to practical execution. One is that it is simple and easy to evade by slipping over into an adjoining state, where such a law is not operative, for the marriage license and ceremony. The other is the law does not go far enough. Old-fashioned Southern chivalry, whatever that may be, to the contrary notwithstanding, both parties to the contract should be made to produce a certificate of freedom from venereal disease from a physician of unquestioned integrity before entering into the marriage relationship. Better be safe than sorry. It is much easier and much less embarrassing to have a

certificate of health than to go through with the disgrace of a divorce court proceeding later on.

The problem of checking the spread of these diseases is one problem that must be settled chiefly in the home. It is one responsibility that cannot be delegated to the parent-teacher association or to the school committee or the medical society. It is mainly the problem of the parents, both of them. They have an able ally in the family physician. Yes, *Family* physician. In this day of specialists when so many otherwise good practicing physicians are putting on airs, there is a tendency to substitute the word "prescribing" physician for the good old word "family" physician. But rest assured the term family physician is still respectable and still prized higher by hundreds of physicians right here in North Carolina than any other honor. So do not hesitate to consult and requisition the services of your family physician in this matter of protecting your boys and girls from a condition much worse than any other kind of serfdom. Your family physician can and will help you. And what is more

he will be glad to do so. I know because, thank God, I have been a family physician and hope to be one again sometime.

Teach your boys and girls early that the kind of homes they will later pre-side over will be the kind of homes that they themselves choose to have. And that the kind of children they are to have will depend on the kind of parents they propose to make.

One more thing in which every citizen can help. That is that if venereal disease is to go the way typhoid fever and other terrible diseases of the past are going, every person having an infective venereal disease should be known to the local health department and the health authorities should be required to see that such persons are treated by their physicians until they are no longer a menace. Until this is done in the opinion of the authorities of the United States Public Health Service little progress can be made in checking these diseases. But whatever prophylactic system is finally agreed upon by health and medical authorities responsible, it must be sound morally as well as scientifically.

"COLDS" AGAIN

The other day we heard an experienced physician say something. It was this:

"I am fed up on the parrot chorus in most of the medical journals, the medical books and what nots, that 'lowered resistance,' 'low vitality' and so on predisposes to 'colds.' In fact in the language of most of them such poor state of physical condition is a sure indication that the 'cold' goblin is going to get 'em right off the reel. I am convinced that such doctrine is bunk because of the fact that in a practice of several years, during which time I have been a close observer, year in and year out, fine upstanding healthy people in the prime of life and vigor have repeatedly consulted me for 'colds' and right along at the same time people of poor health, suffering from different kinds of chronic conditions, never have had a 'cold.' I am convinced that most of the learned stuff has been carefully preserved and handed down by medical writers who would die of shock if they

had to do a little straight thinking, instead of dishing out the usual cocksure loose stuff constantly set before we practicing physicians. I think the origin of the whole business is in fish wives' tales promulgated about the cave-man era. Now, if they would tell us the predisposing cause of 'colds' is 'lack' of protective power in the individual and leave off the hokum about 'lowered resistance' I should not only be interested but would have respect for such 'authorities.' In short, I for one, after years of experience, believe that the symposium of symptoms presented to a physician by a patient suffering from the classical 'cold' is caused wholly and absolutely by a germ or germs exactly like scarlet fever or diphtheria, and that the condition of 'lowered resistance' has nothing to do with it. And exactly as scarlet fever and diphtheria do not attack all persons exposed, lowered resistance having nothing to do with it, as even the fish wife writers now admit, neither does everybody ex-

posed to the 'cold' germ or germs, succumb to the attack. And whether poor man, rich man, fat man, lean man, old man or young man, good man or bad man, plays no part in it. The truth is that what the medical world does not know about the origin, transmission and control of many communicable diseases would fill a lot more journals and books than have yet been written.

"Now, Mr. Editor, if you reveal my identity I will shoot you before sunrise. I do not want my grandchildren to read in the archives of the State Library fifty years from now that their grandfather was expelled in disgrace from the North Carolina Medical Society."

This is one time the "interviewer" is happy to let the "interviewed" do the talking—all of it.

A NEGLECTED FIELD

Prevention of Deaths From Injuries in the Home

It is said that approximately seventeen thousand people die each year in the United States as a result of injuries received in the home. In addition to the number who die there are many hundreds of thousands who receive injuries, some permanent, that cripple and handicap them for the balance of their lives, depriving them of the means of making a living and the pursuit of happiness. Furthermore, such injuries mean the placing of a greater tax on the ability of the friends and relatives of such people to care for them after being injured. Economically speaking, the loss is enormous. Up to now there has been no organized effort to prevent such untoward accidents. The fire insurance people, of course, have been for several years stressing the necessity for prevention of accidents incident to the careless handling of fires, but beyond that little has been done. There has been no accurate survey made, so that the definite number of deaths or injuries due to any particular kind of accident would be impossible to state. It is necessary to secure the facts concerning domestic injuries and deaths in order to definitely outline sensible and practical preventive measures.

Naturally we all know that the largest single items in this great death list are due to burns and falls; and the very young and the very old are the two classes of the population who suffer most from such accidents. In other words, they suffer from the carelessness of the healthy adult members of their families. Only the other day a young woman in one of the counties of North Carolina was sitting quietly

by the fire at her home in the country on a cold morning, and an accidental shot by a twelve-year-old boy, who was carelessly handling a loaded gun out on the porch of the home, instantly killed her. In the first place, no twelve-year-old boy ought to be allowed to handle a gun of any kind. In fact, there is a law on the statute books prohibiting children under twelve years of age from handling or carrying firearms anywhere in the State of North Carolina. But this law, like the railroad stop law, is ignored entirely throughout the State.

Another frequent cause of death and agonizing suffering in many homes is carelessly allowing babies and very young children to get hold of caustic lye. This is a horrible accident, because in case the child is not killed outright it means months and years of suffering due to stricture of the esophagus. Grocery stores on every corner sell this terrible weapon of death, and the manufacturers are only required to place in fine print on the label the word *poison*. We have all sorts of restrictions placed upon physicians in prescribing such remedies as morphine, which is probably well, and yet this element of household use is permitted to be sold indiscriminately by any merchant without any precaution whatever.

Often poison kept in the house for the purpose of destroying rats, ants, and so on, is frequently accidentally taken in food or for medicine, and results in death. Medicine of all kinds should be kept locked in medicine closets, away from children, and no one should ever take a dose of medi-

cine in the dark but should examine the container closely in a good light and be sure that the right label is on the container.

Guns should be locked up where children could not get them; and such things as electric irons, hair curlers, and so on should be carefully disconnected from the sockets, except when in actual use, and also locked away from children. Many a house has been burned up as a result of carelessly leaving an electric iron on the board connected with the socket. It is just about as much excuse to say that "I forgot to disconnect it" as it is to say in regard to the gun after somebody has been shot and killed that "I did not know it was loaded." It is a senseless, criminal excuse at best.

Another frequent cause of accident in our State is the foolish habit of pouring kerosene oil on material preparatory to starting a fire. This act is especially dangerous if the effort is made to start a fire in a heater or stove which is closed up and in which there has been fire burning recently. The cleaning of clothes with gasoline or chloroform is also dangerous. It is well known that undertaking to clean silk, wool or fur garments with gasoline and rubbing it briskly will frequently cause an explosion, and is as

dangerous as it would be to stick a match to gunpowder.

Matches should be kept away from children as carefully as poisons or medicine. Children should be taught from the time they are babies to avoid things and habits about the house that are dangerous to life and health. This can easily be done if it is systematically and regularly carried out during the first few years of the child's life. We saw a very interesting statement a short time ago by some observing writer, who stated that we are now seeing about the third generation of dogs since the general use of automobiles. The writer went on to describe that at present it was rare for a dog to be run over, whereas fifteen years ago, say, the roadside was strewn with the carcasses of dead dogs which had been killed by careless motorists. The point the writer was making was this generation of dogs had been trained to look out for the approach of cars and to protect their own lives. There is possibly a great deal of truth in the statement. If dogs can be so easily trained through instinct and habits and the care of their owners to so easily protect themselves, it should be much easier to train children to guard against careless habits which often produce injury and death.

A GARDEN FOR HEALTH

In the old days when farming and living on the farm in North Carolina was an art as well as a science, and when every farm was a plantation, and the "Big House" was practically the seat of government for the majority of the farm population, the fourteenth day of February was the most important date in the calendar. On that day it was time to sow the garden seeds in a large section of North Carolina. The seed beds had to be prepared, and the garden had to be broken up and put in order for the coming planting. In those days it was a poor farmer who did not see that practically all the food consumed on his place was made on the farm. The only exception was the coffee and the sugar, and perhaps a few spices and flavoring extracts. Naturally there are a good many thousand farmers and gardeners

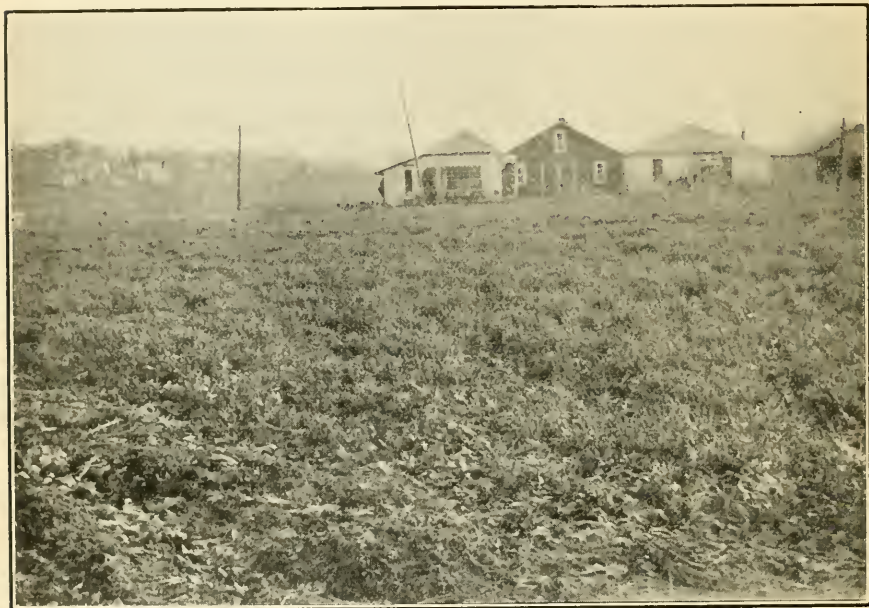
in the State at present who are practically as efficient in producing foods on their farms and in their gardens as in the old days, but there are also a multitude of people who could do this who do not.

The climate and soil of all sections of North Carolina combine to amply reward efforts intelligently applied towards the production of vegetables and fruits. These may be had in abundant variety and profusion cheaply. To promote and maintain health, vegetables and fruits are essential. Every city lot even, no matter how small, could afford at least one apple tree or more which would contribute a great deal to the happiness and health, especially of growing children; and a garden, no matter how small, could and should have abundant attention the year round. It will more than pay in divi-

dends, in satisfaction, and in good health. If nothing were procured for the city man at work in his garden but the exercise he takes in it in the open air, the return would be ample to justify all efforts, this to say nothing of the contentment and mental satisfaction incident to such efforts. Never mind the fun poked at the gardener by the cartoons in the city papers. The cartoonist, like the rest of us, has to live; and, like the paragrapher on the newspaper, he has to be resourceful

and so on, on the fourteenth day of February, would result in a great deal of good. The only class that this could not apply to is the growing class of people who nowadays have a year-round garden, which, of course, represents the ideal to be striven for.

We hear and read much nowadays about the great little country of Denmark. There is a continual stream of travelers going from this country to Denmark all the time to see how the farmers and gardeners in that country



The above photograph of a green field of growing oats was made on December 30, 1926. Mr. Eastman has not yet been able to invent a kodak that will reflect on paper the wonderful color and bright sunshine of a scene like this in North Carolina's mid-winter out doors. Behold how these oats love what you, oh careless man, so little appreciate; learn their lesson of wisdom, yea of life, and take your children where they point—into the sunshine. What the glorious winter sunshine in this State does for oats it will do also for your children if they are only permitted to get out in it long enough to absorb it.

and fill his space with something that the average man can understand and that has a wide appeal. So the picture of the city man shoing his neighbor's chickens from over his fence and away from his one little cabbage plant often affords the little cartoonists, Jrs., the means with which to purchase some nice fresh vegetables and fruits from some gardener who has better luck.

A state-wide rejuvenation of the old idea of garden work, seed planting,

manage to make so much money and live so well. Only the other day we were talking with a young lady who spent several weeks in Denmark last summer, and she was enthusiastic in her description concerning a visit she made to one farmer in particular. His farm consisted of ten acres, and he had a crop and garden rotation of eight different plots on his land. The balance (wooded) was cared for just as carefully. And this small plot, which he purchased after working seven years in the city

of Copenhagen, during which time he managed to save enough money to make the first payment on his land, had been since paid for by the produce from the farm itself. He had built and furnished a beautiful little modern cottage, furnished throughout with good substantial furniture, not less than twenty paintings, copies from some of the great masters of Europe, adorned the walls, and he had a large library of books for himself and his wife and his two children. The source of his income was chiefly from his garden produce in addition to his cows which afforded dairy products, and pigs which were sold through the coöperating marketing associations at high prices. Our informant went on to say that every single inch of the eight plots was properly cared for all the time and yielded its part of produce. It is needless to say that the family was practically one hundred per cent healthy.

The standard unit that has been adopted in discussing the needs of the body in terms of food value is the calorie or heat unit. A calorie is the amount of heat required to raise one liter of water—that is, about a quart of water—one degree centigrade. That means nearly one and one-half degrees Fahrenheit. The scientists have fairly accurately measured the caloric value of different foods outside of the body by using a device known as a bomb calorimeter.

The average adult requires each twenty-four hours somewhere between 2600 and 3300 calories. The farmer who does hard manual labor on the farm, or the city laborer, requires approximately a little more, or in the neighborhood of about 3500 calories. A boy of twelve years of age, however, requires only about 1500 calories daily. It is an important requirement that the caloric value of foods consumed each day should comprise as wide a variety of food as possible.

The average person consumes a great deal more protein than is necessary or best for health. At the same time the average adult consumes not more than 20 or 30 per cent the amount of calcium needed to maintain good health. Calcium is contained in large quantities in milk, cheese, certain kinds of beans, especially string beans, beets,

cabbages, carrots, onions, oranges, as well as other food. The expectant mother should consume a sufficient amount of foods containing liberal quantities of calcium, because calcium is one of the very necessary ingredients to insure health and development of the new born child. In fact, the mother for several years before and including the whole child-bearing period should have a liberal diet containing plenty of calcium, iron, and phosphate. Such foods as beans contain liberal amounts of iron as well as calcium.

To make a long story short, the diet on the average farm table if properly cooked and prepared and a large variety used, as every farm will afford, comprises practically the ideal diet. To repeat, milk in abundance, milk products—that is, butter and cheese—fruits, especially apples; the different berries, such as strawberries, in season; vegetables, especially collards, cabbage, turnips, white potatoes, sweet potatoes, garden peas, fresh and canned, which may be had from the garden the year round; some whole-wheat bread, which can be procured anywhere, any time; together with poultry and eggs, which may be said to be a by-product of the garden; corn and its different products, celery, lettuce, tomatoes, and many other different products too numerous to mention, afford a diet unsurpassed anywhere.

We will let Mrs. McKimmon and her folks advise as to cooking methods; and naturally we hope that she will advise as little use of the frying pan as possible, because we said in the beginning that garden products properly cooked and served afford the ideal diet.

There is nothing finer than for a happy contented family to be able to go into its own garden nearly every month in the year and bring its own products fresh to the table. Then there is no danger in eating raw foods with home-made salad dressings, which is certainly conducive to long life, health and happiness.

It costs little to keep well.
It costs much to get well.
Learn how to keep well.

AN OPEN FIRE AIDS HEALTH

The farmer may not have sold his last year's cotton and tobacco for much if anything above the cost of production. The drouth may have ruined his hay crop and his fall potatoes. Cholera may have spread among his hogs and depleted his meat supply. His taxes may have been increased to put on a new school bus, to help pay the interest on the bonds for the new consolidated school, and to help support the county health department. But on one point he has his more prosperous city brother outdistanced by several leagues, and that is he can have an open fireplace and afford the fuel to run it. The well-to-do city man has a furnace-heated house and so a fireplace would be superfluous and overheat the room, even if his wife did not need the fireplace in her scheme of evergreen decoration. The poor man in the city must, of course, in order to conserve the precious fuel supply, resort to a castiron heater. The man on the farm, however, be he rich or poor, landlord or tenant, white or black, has the privilege of cutting his own wood (a guarantee of good health in itself) and running his own open fire to suit his own comfort. No wonder our grandfathers smoked their pipes in the corner before the fine old log fires. The very atmosphere spelled peace and contentment.

This essay is inspired through reading a notice in the London News dispatches of a renewal in the biggest city in the world of a controversy that has raged intermittently for seven hundred years, as to whether or not open fireplaces should be abolished. The two reasons advanced against the use of open fires is the shortage of coal following the long coal miners' strike, and the smoke menace.

It is said that the first King Edward nearly seven hundred years ago started the controversy by complaining to his cabinet ministers that the smoke and gas resulting from the open fireplaces burning soft coal was interfering with his sleep. The record is obscure on the point, but tradition has it that his lawmakers told him they were sorry, but if he could not stand the smoke he would have to go live in Italy or some other warm country.

At this time Doctor Marie Stopes, the celebrated London woman physician, is leading the fight for retention of the open fireplace. Doctor Stopes says that the open fire not only radiates peace, and comfort and happiness, but that the open fire supplies a special kind of "nourishing" energy just like a vitamin. She says that this special quality acts on the same principle as the violet rays now so useful in medical practice. There is undoubtedly a great deal of truth in the argument of Doctor Stopes.

For all-over-the-house comfort twenty-four hours a day the furnace heat is unbeatable. Furnace heat in the basement is also responsible for saving the lives of innumerable helpless children and old people due to the carelessness of their adult protectors in exposing them to open fire accidents. It has also saved many a tired woman many additional steps in keeping her house clean and tidy, as well as freeing her from anxiety about fire hazards to her little flock; but for mental poise and sound satisfaction nothing can take the place of a good open fire.

The boys and girls of this age of clubs and lodges for father, bridge parties for mother and automobiles and movies and jazz for the whole family, who are thus deprived of the contacts with one another around the big open family fireplace in the meeting place of the old time general assembly of the home in the long winter evenings, are to be pitied. They are missing one of the most steadying influences and some of the finest discipline necessary to the development of character and stamina.

Doctor Stopes and her kind will probably lose the fight in the end, because the interest of safety to the many, and the demands of the inexorable god, economy, will make it so; however those of you who can still afford the luxury of the open fire and the fine, fresh, pure country air, should make the most of it and enjoy yourselves to the limit. You will enjoy knowing that Doctor Stopes has given you a scientific medical reason for what you have always known as a fact.

HEALTH IN OLD AGE

To observing people one of life's tragedies exemplified in every community and in every land is the man or woman past three-score and ten who has allowed himself or herself to be driven into the exile of the "Big Chair in the Corner" and folded their hands to wait for the arrival of the Grim Reaper on the White Horse. Living and yet dead! In the middle of things and yet out of it all! Apart from everything! If they have money, they feel that they are being loved for their dollars; if they are poor, they suspect that death would be welcomed to everybody concerned. Many of them are victims of circumstances. The tide has simply left them. We are not referring to the paralytic or the helpless or senile, but to those who are reasonably active and mentally alert.

The prevention of this sort of unhappiness for many of these fine old folks is to retain an active interest in the world through maintaining an independent home, having work to do and doing it. And so work out of life instead of rust out. The plans must be made early, while in the prime of life, because it entails thrift and saving on the part of the majority to provide their children and start them in the world and still have enough left to carry on. All of us know such delightful old people and what a fine influence their homes and their lives are in the community.

Just the other day we were reviewing these matters in our mind, and we happened to see in one day's news dispatch several references which are pertinent to this discussion. A New York paper had an interesting article on the late Dr. Charles W. Eliot, for so many years one of the leading educators in the country, who reached his prime as an educator after 70. In the language of the writer "he struck the shackles from college education" in the United States and died at the age of 92. The same paper had another article describing the happiness with which Chauncey M. Depew is preparing to celebrate his 93rd birthday next April. Medical science and the application of preventive medicine to everyday life have added fifteen years to the expected span of life in the last

quarter of a century. Therefore, when we spoke of an old person being out of the running twenty-five years ago, if living today we would have to add fifteen years to the average. All such estimates, which everybody will admit, makes a mighty difference.

In the same day's news dispatches Mr. Josephus Daniels, editor of the *Raleigh News and Observer*, laughingly accepted in his editorial columns an invitation from Mr. C. W. Tillett, Sr., of Charlotte, to be present at an all-night celebration of his 80th birthday, this celebration, however, to be observed several years in the future. The point is the frame of mind and the interest in what is going on that causes a man to plan a celebration in observance of his eightieth birthday. We know too many people in the neighborhood of 70 who are looking for the hearse as their chief obsession. Mr. Tillett observes that Moses wrote the tenth verse of the Nineteenth Psalm—"The days of our years are three score years and ten; and if by reason of strength they be four score years, yet is their strength labor and sorrow; for it is soon cut off, and we fly away" and that Moses himself lived to be 120 years old, living 40 years after establishing four score years as the absolute dead line, and that the 40 years he lived after the age of 80 were years of exceeding activity. Both Mr. Tillett and Mr. Daniels quote Brown- ing's immortal words:

"Grow old along with me!
The best is yet to be,
The last of life, for which the first was
made."

The last of life indeed may be the best for a good percentage of people, provided they so live that their health and strength is conserved and not lavishly expended in earlier life.

On the same date that the papers carried these interesting discussions which are mentioned, another obscure item describes the happiness experienced by a Raleigh citizen who celebrated his 81st birthday in December, carrying on his usual work. This man and his wife have raised a large family of children. His hobby for many years has been his flower garden, and who knows but the hours of work that

he has devoted to the cultivation of his flowers have not added numbers of years to his life. This man has a regular job, an income-producing job, in a work that he loves, a work in which an old man can compete with younger men on their own ground, a work in which he has been successful, and it has helped to give him a serene outlook on life at 81 years of age.

In conclusion, work may not be a panacea for all ills, but it is a prevention of a multitude of troubles and the chief objective pertaining to work should be that each individual should strive as early in life as possible to get into the kind of work that he is best fitted for and loves most and in which he can be satisfied and content. The rest should be easy.

SUGGESTIONS ABOUT DRIVING AN AUTOMOBILE

In the first eleven months of 1926—January to November inclusive—353 people lost their lives as a result of automobile accidents in North Carolina. That many individuals died. We have no way of knowing how many hundreds or thousands were seriously injured and maimed for life at the same time. During the same period 252 people died from typhoid fever, one of the major killers of the past. In other words, 40% more people died in automobile accidents than were victims of typhoid fever.

Most if not all of the victims of fatal automobile accidents lost their lives as a result of either their own or somebody's carelessness. A majority of them were undoubtedly due to reckless and careless driving or drunken drivers. In some cases deaths resulted from drivers having deficient eyesight, or to otherwise careful and sensible people attempting to take chances.

The most important move toward preventing such dangerous hazards in traveling by automobile is for the courts to severely punish by stiff prison sentences the proved drunken drivers. Permits through State license should be refused to persons without good eyesight; and every prospective driver should be required to present satisfactory evidence of intelligence and an established reputation for sobriety.

Automobile Manners

There is a large class of automobile drivers who add greatly to the dangers of the streets and roads, whose chief fault seems to be lack of ordinary courtesy and good manners. These include the class who rush by at a dangerous rate of speed without warning, and "cut in" immediately after passing, often forcing the car passed to

leave the road or slow down. The pest who moseys along in the middle of the road at a slow rate of speed monopolizing the whole thoroughfare. Those who stop in the middle of the road to talk, and the fellow who prefers to change a tire without pulling well out to the side of the pavement. Most newspaper reports of collisions on the highways generally on investigation reveal that one of the parties was an ordinary road hog, insisting on remaining in the middle of the road and letting the other fellow do the turning out.

The good driver of an automobile should be:

Considerate of others, especially pedestrians.

A good judge of speed and distance, and always careful, for the "greatest safety device is a careful person."

The driver of an automobile should *never*:

Cut short ahead of others.

Make a turn especially to the left without clear and distinct signals denoting his intentions.

Attempt to pass another car while the latter is passing another vehicle or car in the road ahead.

Pass another car going in the same direction while a third car is coming, meeting them, unless there is at least 300 feet open distance between them.

Pass another car on a curve or going up a hill unless the line of vision is open for 300 feet or more.

Fail to slow down in passing any group of people by the roadside,

especially children coming from school or out of a school building, or church.

Drive fast in rain or on wet streets or roads no matter how perfect the brakes are supposed to be.

Lose his temper.

Get excited.

Take any kind of a chance.

To sum up, the person driving a car should drive with both hands, watch his wheel and the road every

second, and keep his car always under all circumstances under perfect control.

It is time to reduce the number of deaths from the careless handling of these powerful engines of death on our highways. We should begin now, and all of us do our individual part; and insist on the courts dealing adequately with the wilful delinquent who is not amenable to the ordinary requirements of good behavior.

BLOOD PRESSURE—HIGH AND LOW

This article is mainly the review of a book written by Dr. Wm. S. Sadler, of Chicago, entitled "Americanitis—Blood Pressure and Nerves." The book is published by the McMillan Company. Dr. Sadler is listed on the title page as a Fellow of the American College of Surgeons and a former professor at the Post-Graduate Medical school of Chicago, and so on. Many of the statements of the author are so different from the usual medical literature that we are setting forth here some of the rather uncommon points he makes in his book.

It is hardly necessary to say that the subject of blood pressure, its results and causes, is a matter of very great interest, especially to people past fifty years of age, as well as to the medical profession generally. In the beginning the author sets forth in his introduction this pertinent observation that "it is not only our environment, our habits of living, thinking, working, worrying, etc., that have to do with modern high tension and high pressure, but that heredity also plays an important part." The author states that "certain races are born with more or less of a tendency toward high tension," and further states that "the typical American man or woman is a thyroid dominant type."

Under the title of "Mischief-Making Drugs" the author classifies the continual excessive use of tea and coffee, along with aspirin and other forms of headache powders and patent nostrums, in the class of "trouble-makers" for the person who uses such drugs for a long enough period of time. The author maintains that "the enormous

amount of tobacco used by the American people every year is sufficient to suggest that we look to this chemical poison as an agent that would be more or less responsible for much of our modern nervous high tension." Briefly speaking, the author flatly maintains that the continual smoking, of cigarettes for instance, conduces to nervousness and irritation instead of to sedative action as maintained by most smokers. We heartily agree with the author that all persons who suffer from high tension and nervous restlessness should avoid the habitual use of drugs of every description and never take drugs for the relief of pain or nervousness except on direct prescription of their physician. This applies to such pernicious and dangerous drugs as aspirin, which, as the author points out, is even sold at news-stands, at hotel lobbies, as well as everywhere else. The book makes it clear that the author does not question the social and moral right of women to smoke, but at the same time he greatly deprecates the fact that the habit of smoking is spreading among American women. He holds this to be particularly unfortunate in the case of younger women whose nervous systems are high strung and acutely sensitive. He greatly fears the effect upon the children of the next generation.

One of the most interesting chapters in the book is the author's description of the person who makes a religion out of health practices. We have all seen such people who became introspective regarding their health, who are victims of every fad and faze that comes along, just so it is advertised

as a promotion to health. This writer agrees with the author fully on this point. We have an abundance of sympathy for, but very little patience with, the person who has decided to make a religion out of certain so-called health practices. Such persons are pests in their own homes and often drive the other members of their families to drink or despair. They are the kind of people who eventually help buy Packard motor cars for the quack practitioners; and they are one grand continual joy to the patent medicine division of the drug stores.

We may say right here that there is a tendency on the part of many health departments to overdo the standardization of rules and regulations applying to the very personal matter of diet and other things. This is especially true in the field of infant feeding, to mention only one specialty. Simply overdoing a good thing so-to-speak. Many of these matters are things for individual adjustment on the principle that the first wise man had in mind who said that "What is often one man's meat is poison for another." Intelligent selection of food, avoidance of excess in anything, and regular habits, are the antidotes for "health notions."

The author also has a good chapter on "Germ-phobia." He classifies it under "Definite Dreads." This, of course, on a parody with the person who refuses to be left alone in a house or to go on the street after dark, the person who will not open an orange until it is thoroughly scrubbed with soap and water, and obsessed with other extreme notions.

One of the almost startling statements the author makes is that "we must not forget that we know much more about the results of high blood pressure than we do about its causes." And, furthermore, he says that "it is quite generally believed in medical circles at the present time that it is the high pressure which serves to bring about hardened arteries as well as that the hardened arteries are responsible for high pressure." These are things, of course, for a patient to talk over with his physician. In short, the author boldly proclaims that "the time has come to correct this old time notion

that it is hardened arteries that raise the pressure, and in its place to have the public understand that in the average case it is high pressure that hardens the arteries."

The author advances the opinion that it is possible a disturbance in the ductless glands may often be the cause of either high or low pressure phenomena. The author has quite a bit to say about "heart failure." This, of course, is inexcusable in a medical writer now-a-days. When the heart stops beating, there is some definite cause for it and that cause should be stated instead of the meaningless term "heart failure," which would be more appropriate in a discussion of the mechanism of automobiles.

The author, we think, very properly classifies among the influences responsible for high blood pressure disease toxins, diet, drugs, and mental states. For example, the man at 50 years old who finds himself out of a job and knows that it is much harder to go out and make a start at that time than it would be at 30 naturally is apprehensive; and this mental worry may be easily the cause of high blood pressure and may be the beginning of many other troubles. The author makes the pertinent observation that "if the average individual is sick enough to need a drug, he is sick enough to have a doctor. Doctors have been trained how to use drugs. They are experienced in using medicine, and when it comes to the habitual employment of these chemical agencies I believe it should be done under medical direction." That is the most clear-cut statement in fewest words that we have ever seen of a fundamental fact of profound importance. That is the reason that the medical closets for the average family as recommended by the HEALTH BULLETIN of the North Carolina State Board of Health, have always consisted of a very meagre list when it comes to the stock of drugs advised.

One of the finest things in the book is the author's reference to alcohol in the rôle it plays in diseases of the class which produce high blood pressure, arterial sclerosis, and so on. He says that "alcohol is a peculiar drug. It is the great deceiver of materia

medica, in that it never really does what it appears to do. Alcohol makes you think you are warm when you are cold, strong when you are weak, and rich when you are poor." We leave it to our readers. If anybody has ever seen a more concise and correct statement concerning alcohol as a drug, we would like to look at it.

The author has some interesting chapters on the effect of raising blood pressure with such things as affection, fanatical religious views, undue apprehension, and domestic troubles. All of which is a matter of common knowledge. He has a very laughable reference to the test of the genuineness of religion as indicated by a test of blood pressure. For example, he mentions the case of at least one confessed hypocrite, a politician who joined the church confessedly for the purpose of advancing his political interest—confessed it to the doctor, of course, and nobody else—and that the pressure, of course, remained the same, very high. He contrasts this very interestingly with other examples which need not be mentioned here.

The author very pertinently observes that physicians should not inform their patients of an elevation in blood pressure unless the physician explains definitely to the patient all about it, its full significance and prognosis, for the simple reason that it is so easy to get a patient to worrying about his high blood pressure and to thus develop what the author calls "blood pressure scare." We wish to endorse this statement, because while we are sure that

the great majority of physicians carefully guard against carelessness on this point, we have a sufficient number of letters coming to this office in which the writers nearly all begin, "My doctor says my blood pressure is very high, and so on."

The book closes with the prediction that in a few years a coroner's inquest will be necessary every time an American citizen dies under 50 years of age in order to fix the responsibility for such untimely death. In view of the wide-spread appeal now being made throughout American medical circles for the periodic physical examination of every individual on his or her birthday. It is significant to note that the author called this a "Health Audit" and advocated it twenty years ago.

We will let the *Louisiana Health Bulletin* close this discussion in a review all its own entitled "Arteriosclerosis." Says that *Bulletin*:

"Whenever anything goes wrong that cannot be lucidly explained, either idiosyncrasy, 'anlauge,' heredity, disposition or the ductless glands are called into account for the case. But they prove nothing, nor do they offer anything better than a loophole for evading an issue or cloaking ignorance. Perhaps after all our vaunted progress and accumulated knowledge of arteriosclerosis and allied diseases is nothing more than the stumbling about in a marsh of words. And nature's forces go serenely on according to 'laws' which we are blamed for disregarding. But ignorance of either natural or man-made laws excuses no man from consequences of infraction."

RESOURCE

The prevention of disease is nothing more nor less than the practical application of scientific knowledge to the end that preventable diseases may be prevented. In other words the utilization of our resources, known to be effective. An illustration of this practical application came our way the other day. In company with some other health officers we were riding along Hillsboro Road in West Raleigh when a negro boy on a motorcycle passed our car. Just after passing a big ugly dog dashed out of a yard and made for

the negro on the cycle. The boy without veering his cycle an inch or changing speed a particle, coolly lifted the leg on the side next the dog, over to the opposite side and proceeded on like the ladies in the old days used to ride horseback. The look that negro gave the dog was a study in heredity. No dog ever born has been able to outwit an able bodied negro youth when it comes to application of his instinctive resources needed for his own protection. A white youth under similar

circumstances would have probably lost his head, wrecked his motorcycle, and got bit in the bargain. Not so the negro, he had latent resources and instinctively knew how to use them in an effective manner.

So, in the field of disease prevention,

if the known and practical resources could be applied today universally throughout the world for the segregation and control of many common diseases, the child in the home or school would be as safe from those diseases as the colored boy was from the dog.

SAVING THE FIT

By HERMAN N. BUNDESEN, M.D.

For a long time health authorities have been under fire by certain individuals because they have tried to reduce the number of infant deaths. Certain critics grew red in the face, arguing that infant welfare work would result in race suicide. They contended that the infants that die are the weaklings who ought to be permitted to die. Only the strong should be kept alive to grow and propagate their kind. These critics branded our welfare work with a bad name—they said it is "dysgenic"—and they shouted to the world that the doctors were interfering with one of Nature's greatest laws, the Law of Natural Selection.

In modern times we have seen many of Nature's so-called laws flouted. Modern science has nearly annihilated distance and time for the convenience of man. Human beings fly and talk and sing and look at each other over great distances. Man doesn't take all of his natural limitations as seriously as he once did.

Prenatal Care Gives Baby the Best Chance

And doctors are not such fools as they are sometimes made out to be. When they were told that by preserving infants that would otherwise have died they were preserving the "unfit," they paid very little attention to their critics and went on about their business. And they did this with good reason.

Is the baby that dies from rotten milk and hot weather necessarily less fit to live than the one that gets cleaner milk and is better cared for in the summer time? Is the baby a "weakling" because it dies from a cold, from bronchitis or pneumonia con-

tracted from a neighbor's child who had a running nose when it kissed the wee one? My answer to these criticisms has always been: No!

Now we have another answer. We have the answer of a scientific study to prove that the critics of infant welfare work are sitting on the wrong side of the fence. The experts in Chicago's Health Department have conducted a unique, scientific study of the question. By the use of birth and death and population figures and a lot of higher mathematics they have now proven that infant welfare work does not preserve the unfit. And they have gone even further than this. They have shown that *welfare work actually works to preserve the fitness of the fit.*

Prevention of Baby Diseases

The results of these scientific studies are very clear-cut. They show that for every ten infants that are preserved by health methods, and who would otherwise die, there are nearly five more who are preserved in the second year of life, two in the third, one in the fourth and one in the fifth years of life. In other words, where we used to think we were saving ten children, we now know we have really been saving nineteen. The reason for these savings in the later years of life is this: When the number of fatal illnesses is reduced, the number of cases of non-fatal but damaging sickness is also reduced. The damaging sickness of infancy may not kill the young child, but it reduces his resistance to disease so that he is more likely to die prematurely in the second or third or later year of life. Therefore, if we prevent infant sickness we not only reduce in-

fant deaths; we also reduce the excessive number of deaths in the later years of childhood.

Every wide-awake health officer has known for a long time that a large proportion of infant deaths are preventable. The infants are sacrificed needlessly. They do not die because they are unfit; they die for the sanitary sins of their parents and of the community at large. They die in the summer time

from the combined effects of hot weather and bad diet and in the winter from hot homes, improper feeding, and nose, throat and lung infections that are brought to them by people who have colds and coughs, but who insist upon kissing and fondling the babies. It would make a sad story if we could tell how many innocent babies have been kissed into their graves.—*Chicago's Health.*

TREATMENT OF CHILDREN AT THE STATE SANATORIUM

Doctor P. P. McCain, Superintendent of the State Sanatorium for Tuberculosis, recently sent out a letter to all the physicians of the State calling attention to the New Children's Building opened for patients in January. We are publishing below a copy of this letter because, in the first place the letter contains much desirable and practical information which the general public should have even though most of it is a technical communication to physicians; and in the second place Doctor McCain in the next to the last paragraph of his letter recommends that in order to locate the source of a case of tuberculosis in any child of a family the physician should insist on every member of the family or household being examined. Read the letter through carefully and if there is any member of your household who has trouble of this kind, do not wait for your physician to propose the examination of all the rest of the household, but look up the physician and do the proposing yourself.

"Our new Children's Building, with a capacity of fifty, will be ready for patients about January the 1st. The building is fireproof and modern in construction. It has wide porches which have been especially arranged for heliotherapy and rooms for ultra-violet ray therapy. There are separate wards and bathrooms for the few children who will have a positive sputum. Among other features are an isolation floor, play room, a separate dining room and kitchen and an open air school room where those who are able to continue their school work can do so under medical supervision.

"We will not handle any cases of bone or joint diseases, but will treat all other forms of tuberculosis in children between the ages of six and twelve years.

"The form of pulmonary tuberculosis usually found in children is different from the ordinary adult type of the disease and is more difficult to diagnose accurately. The childhood form represents a primary infection and is manifested usually by a very small lesion in the lung at the point of entrance of the infection and by an enlargement of the tracheo-bronchial glands which drain the lymph from the infected area.

"*Diagnosis* can be made by a careful history of symptoms and exposure, the tuberculin test, a physical examination, an X-ray, and by the elimination of other conditions simulating tuberculosis.

"The *symptoms* of greatest significance are undernourishment or failure to gain weight, a poor appetite, a tendency to tire easily, a lack of energy, nervous irritability, fever and at times a cough and history of frequent colds. Of course, these symptoms have all the greater significance when they occur in a child who has been exposed to an open case of tuberculosis.

"The *skin tuberculin test* is harmless, it can be easily applied by any physician and is a most helpful diagnostic aid in children. Except in terminal cases, and possibly for one or two months following other acute diseases, such as measles and influenza, a negative test will rule out tuberculosis. A positive reaction means tuberculous infection, but not necessarily tuberculous disease, or tuberculosis. A positive reaction together with suspicious symptoms without evident cause justifies a tentative diagnosis of tuberculosis; also a markedly positive skin reaction (three plus and four plus) so frequently means tuberculosis even in the absence of active symptoms that the patient should be sent to a specialist or to a sanatorium for an X-ray and thorough study of the case. Tuberculin, together with instructions for its use and interpretation, will be sent

free upon request by the Extension Department of the Sanatorium.

"There are no characteristic *physical signs* in the childhood type of tuberculosis. In the few children with the adult type of the disease there are found the same physical signs as in the adult, and even though abnormal physical chest findings are usually lacking a careful physical examination may reveal tuberculous cervical glands or some non-tuberculous condition which may be causing the symptoms.

"Since tracheo-bronchial tuberculosis is the most common form of the disease in children, and since it is accompanied with no characteristic physical signs *good X-ray films*, rightly interpreted, are of great value in the diagnosis of childhood tuberculosis. Stereoscopic

antero-posterior films and a single oblique film should be made in all doubtful cases.

"Whenever a case of tuberculosis is discovered, whether in a child or an adult, a special effort should be made to locate the *source of the infection*. To this end the physician should insist on every member of the household being examined. In this way many early cases can be discovered before they become infective and in time to be cured, and not infrequently tuberculous adults are discovered who have a positive sputum and who are broadcasting tubercle bacilli, but who may not be conscious of having the disease.

"For cases who are unable to go to a private specialist we conduct a *diagnostic clinic here at the Sanatorium.*"

MEDICINE AND CHEMISTRY

Inseparable Allies In the Scientific World

There is no more inspiring chronicle in all the annals of history, save the birth and life of Jesus Christ, than the life and work of Louis Pasteur. Pasteur was a chemist and started his work simply and purely as a chemist, he became profoundly interested in some of the seemingly unsolvable problems of medicine of the middle of the nineteenth century. He brought to the field of bacteriology, pathology, biology and medicine a light that to this day, in the language of Osler, "Brightens more and more as the years give us ever fuller knowledge." Osler quotes an anonymous writer in the statement "that he was the most perfect man who has ever entered the Kingdom of Science."

Up to the time of Pasteur and his great work less than three-quarters of a century ago, the world knew little more of the causes of the great pestilential plagues than the Greeks at the time the Apostle Paul was preaching in Athens. Before Pasteur and his work, so far as absolute, exact, scientific knowledge existed in the sense we know it today in the realm of prevention and cause of disease, men were groping in the blackness of darkness. The work of this master chemist, therefore, stands out in the history of medical achievement like a message from Fairyland.

Without his training as a chemist, a study as perfect and as accurate as

mathematics, it is doubtful if Pasteur could have succeeded as he did in his diversion into the field of biology. The previous discovery of the microscope had opened up an entirely new world, the world of minute living things. But the old belief in spontaneous generation still prevailed, until the work of Pasteur forever destroyed that fallacy.

The definite facts concerning the truth about fermentation and spontaneous generation worked out and proved by Pasteur represent the basic foundation, and beginning of modern surgery and again to quote Osler "forms now one of the most brilliant chapters in the history of Preventive Medicine." Joseph Lister, a young surgeon of Glasgow, Scotland, was the first surgeon to grasp the significance of Pasteur's scientific work as applicable to surgery and so made an immortal name for himself. A combination of brains and courage in chemistry and surgery that was to save uncountable millions of human lives.

There could be no more important course in the high school curriculum than the study of biography. Aside from its religious significance and inspiration one of the things which makes the Bible the greatest literary work of all ages, is because it contains the greatest series of biographies ever assembled. Joseph and David for example. To the boy in high school between the ages of 16 and 18 when his mind

is as impressionable as the brick-makers' raw clay the lasting influence for good through the study of the lives of men like Osler and Pasteur is incalculable. The study of both would teach a boy as nothing else could the value and importance of such essentials to character and worthwhile success as thoroughness, honesty, system, method, industry, humility, gratitude, sincerity, accuracy, truthfulness, clean living and high ideals.

Harvey Cushing, the great brain surgeon, and Osler's biographer, told the writer in Baltimore nearly twenty years ago that he believed Osler was the greatest surgeon in the world. He explained simply that while Osler had never done an operation he possessed to a marked degree the two chief requisites of a successful surgeon, namely, honesty and sound surgical judgment, meaning when and for what to operate.

But we are wandering away from our subject. Pasteur will probably remain for all time as the most distinguished chemist in history, in his rôle as patron saint of scientific medicine; but there are numerous examples of valuable contributions made by chemistry to medicine.

Chemistry has always been regarded as one of the fundamental sciences, and no medical student is now admitted to a first-class medical school who is not well grounded in chemistry. The science of chemistry is not as old as medicine, in fact the origin of chemistry may be said to have had birth in the demands of ancient medicine, making chemistry a "daughter science" of medicine so to speak. Chemistry originated like so much of the world's beginning knowledge in the land of Egypt. This allied relationship was intimately maintained for several thousand years, until about three or four hundred years ago.

Paracelus who was as much a chemist as physician, and who lived in the sixteenth century, introduced through the pharmacopeia of the time such drugs as mercury, iron, sulphur, lead, arsenic, some of the derivatives of opium and many other drugs widely used at the present time. He was something of an iconoclast and although Garrison in his *History of Medicine* terms him vulgar and coarse, evi-

dently was gifted with some spiritual honesty at least. We find him bitterly protesting the commercialization of chemistry at least once by asserting that "the true purpose of chemistry is not to make gold, but to prepare medicines." Significant words to twentieth-century medicine. Chemistry drifted away from medicine in search of rainbow gold—gold from base metals—and then into the more remunerative industrial fields. In recent years, however, chemistry is rapidly resuming its old-time relation to medicine. This relationship is being brought about in no small degree through the growing importance of Preventive Medicine. The discovery of the new arsenical treatment for syphilis represents a chemical as well as medical triumph. A specific treatment for a specific disease. It is an indication of what may be expected in the future through harmonious cooperation between chemistry and medicine in the important field of research work.

CANCER

We are publishing in this issue an article by Dr. H. Hartwell Bass, of Durham, on the subject of "What the Public Should Know About Cancer." Doctor Bass has written this article at the request of the State Health officer. It is original and is written especially for the *HEALTH BULLETIN*. The subject matter is presented clearly, briefly, concisely, and in language easy to understand. Please do not fail to read it through.

FOR CONSTIPATION

Take three or four of Dr. Patent Medicine's Pink Pills. Roll each pill around the block, using your hand as propeller. Drink one pint of cold water before breakfast and at bedtime. Eat with regularity less meat and more vegetables. Wash your teeth with a toothbrush. Don't forget to masticate your food thoroughly.—*Baltimore Health News*.

"What's a grape fruit?"

"It's a lemon that's been given a chance and took advantage."—*Exchange*.

WHAT THE PUBLIC SHOULD KNOW ABOUT CANCER

By H. HARTWELL BASS, M.D., Durham

The Bureau of Census, Department of Vital Statistics, Washington, D. C., reported for the United States that there were 89,000 deaths from cancer in 1923, and 91,000 in 1924. The reports show a gradual yearly increase for the past twenty years, or since the existence of the Bureau. The deaths from cancer for North Carolina (which was the third lowest of any state in the Union) were 1,304 for 1924, and 1,328 for 1925.

It is reported that one woman in seven and one man in ten, dies of cancer at forty years of age. Undoubtedly these rates are too low, as there are many who die of obscure conditions that are doubtless cancer. With these facts before us, is it not time that a greater effort should be made in our State to prevent or lessen this condition? This cannot be done unless there is thorough cooperation between the physician and the public, to get those treated promptly who show evidence of the disease. No human being is exempt from cancer, it matters not what his station in life might be, although it is more prevalent after forty years of age than before.

The doctor is often asked these questions:

- 1st. What is cancer?
- 2nd. What is the cause of cancer?
- 3rd. Can cancer be prevented?
- 4th. Is cancer contagious?
- 5th. Is cancer hereditary?
- 6th. Can cancer be cured?
- 7th. How can cancer be best treated, and by what means?

In answering these questions I shall make every effort to state facts, and express the opinion of a majority of the medical profession who are doing special work in cancer.

What is Cancer?

Cancer is a tumor, growth, or ulcer that shows no tendency to heal, but progressively grows worse. Not all tumors or growths are cancerous, but when a condition of this kind is

present it should be dealt with as if it were, as no one knows when and why cancer begins. For convenience of description, we will divide lesions of this kind into three classes: benign, precancerous and cancerous.

Benign tumors or growths are those that have no tendency to intermingle or fuse with the surrounding parts; they are encapsulated, freely movable and produce no symptoms. However, if their capsule becomes ruptured and shows an inflammatory reaction, they should be removed. Often these conditions will exist for years without apparent harm, and from some injury or unknown reason, will suddenly become active and produce the most malignant conditions. Under this head may be classified certain types of warts, moles, wens, birth marks, fatty tumors, etc.

Precancerous lesions are tumors or sores that show no tendency to heal by ordinary methods of treatment. Under this head may be mentioned chronic sores on any part of the body, especially the lip, mouth and tongue. Small nodules in the breast, chronic sore nipples (Paget's Disease), chronic uterine troubles that show a tendency to bleed or produce a constant discharge, chronic conditions of the rectum as piles, fissures, and eczemas. Certain skin conditions of old people (Keratoses) on the ear, face or backs of the hands will lead to cancer. Black or pigmented moles are especially dangerous. Bladder conditions of old men (enlarged prostate) are twenty per cent malignant. Goiter, gastric ulcers and chronic intestinal troubles should all be considered, and the proper treatment instituted promptly and effectually.

The clinical signs of cancer may be classified as follows: Those of the skin, which include warts, moles, ulcers and small tumors; these conditions act as a local irritant to the normal skin, and influence the development of cancer. You will notice that a hard

ridge or nodule will develop around or in the sore, that it bleeds easily, scabs over, but has no tendency to heal, that there is a discharge, but not true pus, has a somewhat foul odor but there is no pain.

A wart or mole begins to show a hard, thickened and inflamed base, is not especially sore and only has a little sharp tinge of pain that may shoot through it occasionally, the growth gradually extends, shows no tendency to heal, but gradually grows worse, breaks down in the center and sloughs, bleeds easily and has no local heat or congestion as an ordinary sore.

A small tumor may have been present for years, has been freely movable or encapsulated, begins to grow, becomes fixed, seems to fuse with the surrounding parts, is hard and nodular, not especially sore or inflamed. There may be a sharp shooting pain through it occasionally, as it grows it will have a tendency to break down, but gradually spreads.

A sharp jagged tooth or one that has decayed to the gum will produce local irritation to the tongue or gums until an ulcer forms, which develops into a hard nodular growing mass.

A chapped or fissured lip, especially in smokers, will develop into a hard mass that may not be larger than a pea, will begin to grow, the glands of the neck will become enlarged (Metastasis) and break down. The sore on the lip may grow so rapidly that it will include the whole lip.

A woman's breast may show a small hard lump or a chronic sore nipple (Paget's Disease) that begins to grow, the skin is attached to the lump and is fixed, no special soreness, only a sharp shooting pain occasionally, tumor gradually grows, glands in the arm pit become enlarged (Metastasis), also those above the collar bone. In the majority of cases, the nipple is drawn in by the growth (retracted).

A woman around forty years of age begins to bleed between her monthly period, or on exertion, has a discharge that may or not be foul, no special pain but tires easily, may lose weight, becomes pale, should be examined and proper treatment given. There are numerous other conditions that space will not permit to be described.

What is The Cause of Cancer?

Every country in the world today is making every effort to find the true cause of cancer. At the present we do not know, but we have found by experiments what cancer is not. Shall we stop and wait for someone to make the discovery, and let five people a day die in North Carolina and not make the proper efforts to save them?

Experiments have proved that cancer is not contagious, that you are not running any risk in nursing those who are sick with the disease. Experience has taught that cancer is a purely local condition at the beginning, and if left untreated the fluids of the body will carry particles of cancer cells from the local infection to other parts of the body (Metastasis), and when this takes place, you are hopelessly doomed.

There are many theories that are being studied as to the cause of cancer, but none of them have been proved, but we have proved that there are certain essential factors that are necessary for the development of the disease, such as local irritation, chronic sores, injuries or anything that acts as a chronic irritant to any part of the body within or without. These irritants seem to make suitable soil for the development of the growth.

Can Cancer Be Prevented?

The answer to this question is yes, if treatment is received before the growth develops. All conditions that lead to cancer should be promptly treated as soon as discovered.

Can Cancer Be Cured?

Yes, if the treatment is thorough, prompt and radical as soon as the nature of the trouble is found. Many cases of advanced cancer can be cured if treatment is carried out before general infection occurs.

Treatment of Cancer

The treatment of cancer in the past has been shrouded in mystery and quackery, based upon prejudice and ignorance. It is no longer necessary to treat the cancer victim as an outcast. Every one should be on the alert to recognize any condition that is suspicious and receive treatment

promptly. It has been proved that cancer at the beginning is a local disease and becomes constitutional only after it has been carried from the local point of infection, to other parts of the body by the lymphatic and blood systems (Metastasis). Those who are victims of the malady are prone to procrastinate and on account of not suffering pain, will allow the disease to become thoroughly established before seeking aid.

Cancer cannot be successfully treated by any one method. And those who depend upon any one remedy are doomed to disappointment and failure. Every patient, or case, is a law unto himself, and should be treated as such. No doctor would give calomel to every case of typhoid fever, although there are cases of typhoid that calomel will benefit. So it is with the treatment of cancer.

The recognized treatment of cancer today may be summed up as follows:

Surgery, Radium, X-ray and Electro-Thermic Methods.

Every patient should be examined before any treatment is undertaken, as there are other diseases that may complicate and have a decided effect upon the results that might be expected. Syphilis, diabetes and tuberculosis are some of the complications that greatly influence the outcome. Every patient should keep in touch with the doctor who treats his case, as time alone can prove a cure. He should make frequent visits for inspection, and if there is the least evidence of a return, prompt treatment should be given.

The plaster method of treatment is painful, slow and inadequate. It has been used by those who were uneducated to its dangers, although some good results have been obtained in mildly malignant skin lesions. The mails are filled with all kinds of advertising schemes of cancer quacks, which range from blood serums to magic. These are dangerous and criminal, because they create false hope in those who are afflicted, and only result in a large expenditure of money and disappointment. Your physician is the one to advise you, not some distant quack.

Operative surgery was the only means with which the physician had to com-

bat cancer until the discovery of radium and X-ray. It still has its uses, but in the majority of conditions should be supplemented by other methods of treatment. When the growths are accessible and can be completely removed, surgery offers one of the best methods.

X-ray is now more universally used than ever before, for both, deep-seated and superficial conditions. The procedure is known as Deep X-Ray Therapy. It is especially beneficial in skin lesions, cancer of the breast, abdominal and uterine conditions.

Radium or X-ray treatments should precede most surgical operations for cancer, as they block off and seal the lymphatic vessels, destroying any cancer cells that might be lurking in them. There should also be post-operative irradiation, so if there are any cancer cells that have been dislodged during the operation, they can be thus destroyed before they are carried to some distant part of the body.

Radium is a blessing to those who are afflicted with cancer. By its many methods of application, its painless action, and its use in the hands of those who have been trained, the results have been wonderful.

The Electro-Thermic methods of treating cancer have been developed to such perfection of control that they have replaced operative surgery, where the lesions are accessible, as the skin, lip, mouth, tongue, anus, etc.

The two methods that are of special benefit are known as Desiccation and Coagulation.

The effect of these currents upon the growths is to destroy them by heat. They block and seal the lymphatics and blood vessels. The heat is generated within the body and not outside. It is caused by the resistance the flesh offers to the passage of the currents through it; this makes it possible to create an intensity of heat far beyond the point treated. This heat can be regulated to any degree desired, and as cancer cells are more sensitive to heat than the natural flesh, they are destroyed far beyond the original growth.

The electro-thermic methods, with the aid of radium and X-ray have revolutionized the treatment of cancer.

The object of this paper is to teach the public the following facts:

1st. That cancer is a local disease at the beginning, but if allowed to go untreated is fatal.

2nd. If treated before general infection occurs a cure may be expected. Surgery has its opportunity at this stage.

3rd. That it is a disease almost without pain and on this account you are prone to procrastinate until it is too late to be assured a cure.

4th. That advanced cases can be greatly benefited, suffering relieved and life prolonged, by the judicious use of Radium, X-ray and Electro-Thermic methods of treatment.

LIFE NOT OVER FOR THE PERSON WHO HAS "T. B."

Many Famous Men Did Their Best Work After Developing Disease in Their Lungs

GO EASY AND GO ON

"I don't know what I'll do if they tell me my husband has tuberculosis. You never do get really well. It's just get better and then hold on and on." The speaker was a woman who had accompanied her husband to the sanatorium clinic. The husband was getting an examination at the hands of the clinic specialist. She was plainly nervous and worried. After half an hour the husband came back from the specialist's office. He was all right. The wife's face became ten years younger with that "all right."

Life Is Over

"Tuberculosis. One's life is over. Oh yes, you may go to a sanatorium and get patched up, but you'll never be the same again." Looking at it this way is seeing the shaded side of tuberculosis. There is a shaded side to tuberculosis, and often in the mind of the patient and the patient's family the shaded side gets all of the attention, and if there is a side to the disease that is colorful, they let the gray shades overcast the rainbow hues.

One way to see the sunshine in tuberculosis is to think of the period of cure as a "rest" in music. In music the rests are introduced to make more music. If you look upon your period of enforced rest, as a period in which you are making music for yourself and your friends, you will begin to lift the curtain, let a ray of sunshine into the shaded side.

Dr. McDugald McLean

Dr. McDugald McLean, who himself had tuberculosis, says in his wonderful

little book, "Tuberculosis, a Primer and a Philosophy."

"We are part of all we have met"—certainly no one has been introduced to tuberculosis and come off an unchanged man. The lessons of patience, courage, endurance and hope turn out some truly noble and purged souls—souls attuned to the broadest and most sympathetic interests of mankind, and skilled in surmounting obstacles and overcoming handicaps."

Take The By-Roads

Don't ever think of yourself as never getting really well again. A person who has had tuberculosis must always remember that they must take a little better care of themselves than if they had never had it, but there are many people who because of one thing or another have to take life "easy." There's just as much fun in looking for the quieter roads and then traveling in them, as there is in racing along the main highway at sixty miles an hour. The people who are doing sixty an hour are liable to run into another car or a locomotive. When you come into town on your by-road you'll probably find that your faster friends have preceded you there—in an ambulance or riding with the undertaker.

Famous Men "T. B.'s"

With tuberculosis one's life is not over. Dr. Edward Livingston Trudeau, the founder of the first sanatorium in America, with intermittently active tuberculosis for over forty years, was only beginning his life when he developed tuberculosis. So long as there is tuberculosis in America Dr. Tru-

dean's name will stand as one of the great pioneer fighters of the disease in our country and in the world. Dr. Trudeau never became interested in the study and care of the disease until he developed it himself. All of his wonderful work was done after he was a "T. b."

Robert Louis Stevenson, the author, developed tuberculosis when he was twenty-one years old. All of his books

at fifty. He thought he would die, but recovered and lived for thirty-eight years, dying at the age of eighty-eight.

Go On

You have tuberculosis. Life is over! No! It is only beginning. Sweep the gray shades aside, catch the sun's rays. rest, take the by-roads when you want to travel the main highways, remember those "Who, by a life heroic," have conquered fate. Go on!—*The Sanatorium Sun*.



FARM DECORATION

A farmer took over a run-down Durham County farm about one year ago, and decided that the best decorating he could do for the old place would be white leghorn chickens. He has five hundred of them literally all over the place. He says that together with a forty cow dairy and a field of strawberries they are working him to death. But the combination is decorating the cheeks of his four children with the red, rosy bloom of good health.

and his fame as an author came after he became a "T. b." The only novelist who has ever made a million dollars from his books, Harold Bell Wright, is a "T. b." He wrote "When a Man's a Man" in 1916. At that time he thought it was his last book. He has written many since then. John Wesley, the founder of the Methodist Church, suffered an acute attack of tuberculosis

PREVENTIVE MEDICINE

In the last fifteen years one insurance company has spent \$18,709,000 on health work for its industrial policyholders. During this period the death-rate has declined more than 30 per cent. This reduction in mortality has meant an actual saving of \$35,000,000, which, with the former death-rate, would have been paid out in death settlements. An \$18,000,000 investment and a \$35,000,000 saving! This holds true for other business enterprises. There is something in this life-saving business which reacts directly to the benefit of the manufacturer, the storekeeper, the public-service corporation, the exporter, the farmer and the realtor. Disabling sickness resulting in inability to work has been found by actual surveys to amount to about seven days each year to industrial policyholders. Furthermore, it was discovered that about 2 per cent of the population, on the average, is sick at all times. The cost of this item alone in reduced production is estimated at about \$1,000,000,000 annually in the United States.—*Nation's Business Magazine*.

A PART TIME FAMILY COW

In these days of full time this, that and the other thing, a teacher in the Raleigh schools interested us mightily the other day with a description of a part time family cow.

It happened this way. The teacher is a young woman who believes in her job 24 hours a day and seven days in a week. She has been teaching in one of the Raleigh schools for several years.

She always interests herself in everything that concerns her pupils' welfare; and being interested, of course, means that she gets all the information possible about each and every child who travels each year through her grade. Last year she received at the beginning of the term a pupil who represented the third from the same family to come into her grade. This boy was apparently healthy and well nourished, in striking contrast to the two whom she had previously taught from the same family. On investigation at the home of the children in a suburb of Raleigh, she found that there were seven children in the family and all of them with the exception of Thomas, we will call him, were like the two older pupils, undernourished, stunted in growth, nervous and irritable. Thomas did not look as if he was related to any of the rest of the children. Our teacher was of course stumped completely for an explanation. But the mother had the answer. She told the teacher that soon after Thomas was born they were able to get a good cow, and kept the cow until Thomas was

two years old. She said Thomas liked milk and had all he wanted and drank lots of it until he was two years old. They had never before been able to own a cow, and had not since. So Thomas was the only one of the seven to have proper nourishment when he needed it most. Lucky Thomas. The family were too poor to purchase milk for all the children and of course not able to keep up a cow of their own.

The consequence for that family. Tragedy, grim, stark tragedy. Six children deprived of the right every child should have, plenty of milk; bone and blood and teeth and muscle and nerve builder, until too late to lay the foundation for enduring health. The children will suffer, the family will suffer, the community will suffer.

Sometime we hope somebody will write a book on the proper application of the Parable of the Loaves and Fishes. Economic ills and the results of ignorance are just as acute in North Carolina today as they were in Palestine nineteen hundred years ago when the Master fed the hungry multitude.

EFFECTS OF NUTRITION ON GROWTH AND RESISTANCE TO INFECTION

For a number of years, and especially since the discovery of the rôle played by vitamins in nutrition, there has been a tendency to attribute every ill of mankind to a deficient or faulty diet. No one questions the importance of a proper diet, yet here and there we find researches which tend to throw doubt upon the extreme views which have been put forward by certain so-called nutrition experts.

A most careful and exhaustive study has recently been published by the Medical Research Council of England, which throws considerable doubt on matters which have been accepted as almost axiomatic. From 1919 to 1923 an investigation of the poorer classes in the three largest cities in Scotland, and of laborers and miners of the rural districts of the same country, was carried out. It has been shown previously that city dwellers are on the average shorter and lighter than country people, and the cause of this difference has

been widely attributed to a deficient supply of suitable food. The workers expected to find a close correlation between the nutrition of a child and the income of the family, expressed as per person, but have not been able to show this. The argument that an increase of wages would of itself lead to better growth is not supported by their findings. The effect of overcrowding with consequent decrease of air-space per person was also found to be insignificant, though the investigators point out that their failure to establish such a correlation does not exclude the possibility of such connection and may only mean that some other factors are dominant. One factor of this kind was found to be "maternal efficiency," and this again was found to depend, at least to some extent, upon air-space per person, but also upon the size of the family, i. e., overcrowding. Overcrowded dwellings and an inferior type of mothers were found to go hand in

hand, though which was cause and which was effect was not clear. Bad parents tend to select poor houses, irrespective of income.

An apparent lag was observed in the growth of the town children before the middle of the second year of life, but after the age of 18 months the rate of growth was satisfactory. The cause of the lag was not determined and remains an important point for future investigation, though the growth after 18 months indicates that deficient diet was not the cause.

The authors of this report point out that their study is a piece of pioneer work, being "the first extensive attempt to estimate the influence of various environmental conditions on the growth and nutrition of the slum children." The general conclusion is that heredity and the inherited growth impulse play a large part in determining the growth of the child and that in spite of what may be considered injurious environments, the slum child tends to develop on the lines of its parent.

They recognize that many of their findings are inconclusive, but believe that it has been shown that the remedy heretofore suggested by sociological and political theorists, namely, an increase of income, would not of itself remedy the existing evils, while on the other side, the extreme eugenists are equally at fault.

Almost coincident with the appearance of this report, is another along somewhat the same lines, in which the relation of lowered resistance to malnutrition has been studied among the school children of Vancouver. In this city, a height-weight-age survey of the public school children had been made in 1923 and a similar one in 1925, to which the most recent classification by Dr. Wood and Dr. Baldwin was applied. The general results of this study have been to show that malnutrition as observed in 8,000 children exerts no injurious influence upon the ill nourished. The proportion of infection among the well nourished and the ill nourished is exactly as 1 to 1. The authors, who investigated the incidence of six infectious diseases in the school children of Vancouver, point out that there is considerable variation in the individual diseases, which leads

them to believe that there is no "general resistance to infection, lowerable by a general cause such as malnutrition." If there were such a thing as "general resistance" which could be lowered for one disease it would be reasonable to suppose that it was lowered for all. Their study showed that where the resistance was apparently lowered to scarlet fever, it was raised to chickenpox. On the other hand, it has been held that the incidence of scarlet fever corresponds with wealth and overnutrition, and even if such conclusions are not accepted, they at least do not indicate that malnutrition predisposes to infection in this disease. The authors conclude that their findings should not be used against the beliefs that good nutrition is beneficial. It is too well known that it makes for efficiency, general well being and physical capacity, but they hold that their study shows that malnutrition has one less untoward responsibility than is usually attributed to it.

The two pieces of work emphasize the danger of running to fads: they point out the danger of accepting dicta, and show the value of the open mind in making investigations.—*American Journal of Public Health*.

REST CURE

Casually glancing at the paper published at the Sanatorium, we see that Dr. McCain says that rest is the one cure for tuberculosis. Raw eggs, climate and other formerly emphasized matters are of little moment compared with rest. That being the case, if rest is as good a preventive as cure, some folk should be thoroughly immune to the dread disease.—*The Chatham Record*.

HOUSE FLY GRAND JURY

A New York grand jury passed resolutions by a vote of 19 to 4, recommending modification of the prohibition laws. A resolution made by an association of house flies recommending that folks quit screening their homes would be about on a par with the one passed by the New York grand jury.—*The Mocksville Enterprise*.

WHAT SOME PEOPLE WANT TO KNOW

ANTS

"I want some of you wise folks down there at Raleigh to tell me what to do to get rid of a pest of peculiarly small ants. They are so small they are almost microscopical in size. They are worse in winter. They have an especial predilection for the bath tubs and lavatories. They seem to be able to swim, and hot water has no effect on them unless they are submerged in boiling water for a considerable time. Next to the bath room they prefer the white table cloths, especially at meal time and when guests are present. They seem to appear in droves from the solid tile and are able to signal to each other at long distances on the approach of danger. Ordinary 'ant terrors' do not bother them a bit. Recommendations for ordinary ant extermination by the U. S. Government Bulletins have done no good. I have so far been unable to discover any of their cities and towns where they carry out their colonization and propagation business.

"Kindly publish directions in the BULLETIN that will help us get rid of them."

We referred the above letter to Doctor R. W. Leiby, State Entomologist, with the request that he write the reply for us. Doctor Leiby has been good enough to help us out and below are the things he advises doing. In carrying out Doctor Leiby's directions we want to urge especial care if the sodium arsenite preparation is used, because it is of course poisonous, and should never be carelessly used and particularly where there are small children in the house.

"There are 76 different kinds of ants known to occur in North Carolina, and not all of them will respond to the same method of control; so it is not surprising that our correspondents are often dissatisfied with our ant control recommendations.

"The simplest method of control for many kinds of ants is to scatter sodium fluoride on the window sills where the ants often crawl over in getting into the house, or to scatter it thinly on the ground underneath the house where the ants have their nest. The sodium fluoride is a slow poison which gets on the feet of the ants. When they clean their feet through the mouth as is their custom, the poison gets into the alimentary tract and kills

them. But sodium fluoride is also a mild poison to the human and must therefore be placed away from food and the reach of children.

"Soaking sponges in honey and water and placing them where the ants can find the sweetened water will cause them to congregate in numbers where with a little trouble, but constant watchfulness, they can be killed by boiling hot water.

"If the nests of the ants can be found, the ants in them can be quickly asphyxiated by putting a pinch of calcium cyanide in the nest. However, it is not always easy to locate the nests for they may be out of sight under a building.

"A somewhat troublesome but sure method of control is to make up the following mixture, put it in several saucers with blotting paper or sponges and place the saucers where the ants can readily find this poisoned bait. It is made by dissolving 5 pounds of granulated sugar in $2\frac{1}{2}$ pints of water and adding to this sugar solution one-twelfth ounce of tartaric acid. Boil it for 20 minutes and allow it to cool. Then dissolve one-fourth ounce of sodium arsenite in a half pint of hot water. Cool this solution then add the poison solution to the sirup and stir well. Finally add a half pound of honey to the poisoned sirup and mix thoroughly.

"This ant poison is extensively used to exterminate the Argentine ant which is the most bothersome ant throughout the South. It seems that the poison in this mixture is so mild that the ants feed upon it and carry some of it to to their nests and are able to feed it to the queen before they die. As a result the queens become poisoned, which of course puts an end to the further propagation of the ants in that nest.

"Whatever method of control is used, the housewife should be persistent, and not lose heart if the ants are not all destroyed in a few days or even a week. Repeated applications of the poisons are often necessary to thoroughly rid a kitchen or pantry of ants. And it will always be advisable too, to leave no food around to which ants are naturally attracted."

"Public health education is an outstanding need of the hour."—WENDELL C. PHILLIPS, *President American Medical Association.*

JEALOUSY

Nip Jealousy in Childhood, Urges Child Specialist, Warning of Grave Effects

What starts the growth of jealousy in children? What can parents do to prevent the development of this ugly trait that will distort the entire future life of the child? What is jealousy?

"Once jealousy has become embedded in a child, it can never be completely eliminated," says Dr. Frank Howard Richardson, noted child specialist and psychologist, writing for the December issue of *Children, The Magazine for Parents*.

"Jealousy is a misdirected, perverted form of self-love. And self-love is an indispensable constituent of every human being. Self-love or self-esteem, normally developed, is the basic ingredient of self-respect, ambition, desire to do well in the world and to be well thought of. Distorted, it becomes that ugly, unhappy trait, jealousy.

Parents' Favoritism Fertile Cause

"Jealousy may be fostered in a child by the obvious favoritism of the parents for a brother or sister. Sometimes this favoritism is the result of an actual preference for the other child. Sometimes it is assumed for the purpose of spurring the delinquent child, to bring him up to the standard of the child who is praised.

"Such discriminations are found to have far-reaching and devastating effects.

"Consider the common parental practice of holding before a laggard child the successes of a model brother or sister. The common result is the growth of a bitter and deep-seated hatred and jealousy toward the brother or sister who is the model. A less evident result is the fostering of a profound sense of the child's own inferiority.

"Pitting a brilliantly endowed child against a normal one of the same age, or a naturally bright younger child against a retarded older child, is a bit of refined cruelty.

Should Praise Child's Good Traits

"A more subtle cause for the development of jealousy is society's preference

for the brighter or more attractive brother or sister. Teachers, fellow pupils and playmates are bound to prefer him.

"When this occurs, watchful parents may do a great deal to neutralize it by emphasizing the few admirable traits possessed by the less favored one, as well as by avoiding comparisons of the less favored child with the more happily endowed one.

"Home praise can do wonders in correcting the world's judgments. The child who is freely and frankly praised for the things that parents can honestly commend is saved from the perils that beset the child who is never given appreciative encouragement.

"The unpraised child, suffering from unhappy comparisons, flees from reality, because it is too hard to bear. This is a most dangerous habit for any child to establish.

"The values that parents set upon their children will be accepted by the children themselves, whether they be just or unjust. Later in life it will be difficult if not impossible for them to alter these estimates of themselves.

May Cause "Inferiority Reaction"

"One of the most fertile causes of the almost universal 'inferiority reaction' that we hear so much about nowadays, is some such false valuation placed upon a boy's or girl's capabilities and accepted by him. Many of us know to our bitter cost how next to impossible it is for us to alter such estimates.

"Parents have their likes and dislikes. Some traits 'rub us the wrong way.' Others are especially sweet and dear to us. But to allow these deeds and traits of our own children to sway us into showing preferences and antipathies toward them, is a monstrous thing."

The "*Children*" article points out that another fertile cause of the growth of jealousy in children is the advent of a baby brother or sister who suddenly becomes the center of the household interest and affection formerly held by the child.

"Parents often fail to realize just what a serious shock the advent of a new baby is to the emotional life of the 'baby' who is superseded. This period that furnishes so fertile a soil for the sowing of the seed of jealousy, cannot be handled too carefully by loving parents.

"If the situation is properly handled, however, the coming of a little brother or sister may stimulate the development of some of the finest virtues in the character of the older child and there need be no hint of jealousy on his part."—*Children, the Magazine for Parents.*

TYPHOID VACCINATION IS A REAL WEAPON

Department engineers investigated the recent outbreak of typhoid fever at the Dixmont Hospital for the Insane, in Allegheny County (Pennsylvania). Over two score infections were reported to the Central Office. The water supply was the criminal in these cases.

In commenting upon this epidemic, the Secretary of Health said, "It is a most significant fact that this infection was limited to the attendants at the institution. None of the inmates contracted the disease. All inmates had been vaccinated against typhoid fever; of the attendants, only one had received this preventive treatment. Typhoid fever vaccination is a simple matter and a safeguard which will prevent this disease and save life. *But it must be used.*"—*The Listening Post.*

WHY IS A HANDSHAKE?

The *Canton News* of November 29 carried an editorial on "Hand-shake Germs" which appeals to us very much for its uncommon sense view of this questionable habit. The question has often occurred to us: Why is a hand-shake? Isn't it only a relic of the past with which we might profitably dispense? Much has been written about the custom, its origin and its meanings; yet nothing to justify it from a sanitary standpoint.

That it can convey infection can be proved by laboratory tests. The warm, moist surface of the hand forms a very favorable resting place for bacteria while waiting for further transfers to our friends. Germs are no respectors of person or relationship. The most devoted of parents are physically just as capable of transferring infection to their children as any one else. The honest, hearty handshake may and frequently does transfer just as many pathogenic bacteria as though a deadly enemy were concealing his mortal designs in such a greeting.

It is a strange thing, but nearly universal, that people cough and sneeze into or upon their right hands—the ones with which they shake hands. Germs cling very readily to the skin of the hands, and it requires much mechanical and chemical scrubbing and disinfection to remove them; yet, so-cieble little things that they are, they are ever ready to transfer their affection from one hand to another, or from hand to lip or food. Under ordinary conditions the human hand is a culture bed of germs and liable at any time to have its millions of germs augmented, or transferred, as the occasion presents. If you want to realize the possibilities of the transfer of diseases by the hand just watch any one for a day and see where he puts his hands, what he allows to touch and soil them and how democratic he is in passing his germs along to his friends and family.

That the custom of hand-shaking will ever go out of use may be doubted, but that it is a means of conveying disease is susceptible of scientific demonstration. Our only hope is that people realizing the danger will take every precaution against putting their hands where they may either acquire or transmit infection. The Chinese have a very commendable custom of shaking their own hands when meeting friends, a custom we might well adopt. We make a lot of fun of China, but often may profit by her ancient wisdom if we but would. At least, your own germs will stay at home if you shake your own hand.—*Ohio Health News.*

LITTLE TALKS ABOUT BIG DISEASES

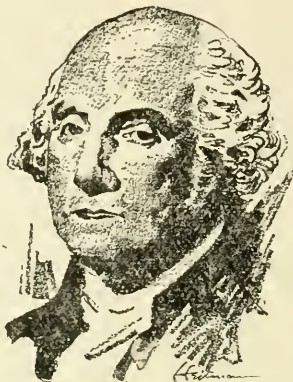
DO YOU KNOW THAT GEORGE WASHINGTON WAS POCK-MARKED?

THE Father of His Country was not different from thousands of others in his day. Few people escaped the ravages of smallpox, and countless numbers of them died. In fact, smallpox is said to have been responsible at one time for one-tenth of all deaths.

So great was the risk of the disease that people tried to prevent serious attacks by producing it artificially, that is, by means of inoculation with matter from the pocks of a mild case. This was not a sure method, nor was it safe, but it was the best they knew at that time.

In 1796, just a few years before Washington's death, an English doctor, Edward Jenner, made a remarkable discovery. He had noticed that milkmaids who contracted cow-pox never had smallpox. Was it really true, asked Jenner, that a terrible disease like smallpox can be prevented by a mild and harmless disease like cow-pox? For twenty years, he studied and experimented. Convinced at last that cow-pox vaccination would prevent smallpox, he announced his discovery, proved his case, and everywhere *was acclaimed as the greatest benefactor of his time.*

We have improved, of course, on Jenner's methods, but his principle



has stood the test of time. Jenner took his vaccine from the hands of infected dairymaids; today we procure it from cows *with the strictest sanitary and hygienic precautions* and under government regulations which insure a safe and effective product.

Smallpox has been stamped out wherever systematic vaccination

has been practiced. It still persists to a serious extent in some parts of the world, chiefly in India, China, Russia and—the United States. Nearly 600,000 cases in the past ten years is our own disgraceful record.

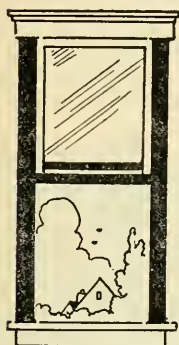
In states where vaccination is enforced, smallpox is rare. Most of our cases occur in states where there is a strong anti-vaccination sentiment. *For every single case of smallpox in a highly vaccinated state like Massachusetts there are 400 cases in a largely unvaccinated state like California.*

Vaccination is not a 100 per cent guarantee of individual protection; but that it does protect the community is beyond dispute. The records for 1925 indicate that 90 per cent of the cases had never been vaccinated, that 8 per cent had been vaccinated from 7 to 50 years previously, and that *only 2 per cent had been vaccinated within 7 years prior to their illness.*

There is no excuse for smallpox. Vaccination is an effective preventive. That is why all health authorities recommend it, and that is why the courts of the land sustain it as a reasonable requirement in protecting the PUBLIC HEALTH.

HEALTHFUL VENTILATION

Many conflicting ideas exist regarding ventilation and its relation to health, comfort and efficiency. This article outlines very briefly the results of many experiments and careful studies of this subject made by the New York State Commission on Ventilation whose report has aroused nationwide interest.



UNDREDS of years ago it was discovered that the air in which we live is a nicely balanced mixture of gases—principally nitrogen, oxygen and carbon dioxide. In the vast out-of-doors nature maintains this balance but, when air is breathed, some of the oxygen is used up by the body and a waste product—carbon dioxide—is breathed out. Old theories of ventilation called for frequent change of air in densely populated rooms so as to keep the carbon dioxide content down to a low figure. Repeated tests on animals and people have shown, however, that the proportions of oxygen and carbon dioxide can vary through a

wide range without apparent harmful or distressing results.*

Recently it has been learned that the physical properties of air, particularly TEMPERATURE, HUMIDITY and MOTION, are of much greater importance than any natural variation in its chemical make-up.

TEMPERATURE is the most important element in healthful ventilation except in certain industries where injurious dusts and gases are produced. If, during this winter, you wish to keep the air in your home, office, church or school in the condition most favorable for those who breathe it, *get a good thermometer*, hang it where it will record average conditions, and keep the temperature at 68° F. *Don't let it go higher.*

The increase of colds, sore throats, pneumonia and similar diseases in the winter appears to be due largely to quick changes of temperature of the air breathed. Going from overheated rooms to the very cold out-of-doors weakens the delicate linings of the nose and throat, making them susceptible to the attack of the germs which cause disease.



A HEALTHY CHILD OR YOUNG ADULT WHO FEELS COLD WITH THE THERMOMETER AT 68° PROBABLY NEEDS MORE CLOTHING

* Carbon Dioxide should not be confused with Carbon Monoxide, which is a part of the exhaust gas from gasoline engines and is very poisonous even in small quantities.

Governor Praises Health Work

In his annual message to the 1927 session of the General Assembly Governor McLean said of public health work:

"North Carolina's progress in public health work is one of the State's outstanding achievements, due largely to the efficient manner in which our health officials have performed the tasks committed to them. The work of the State Board of Health has increased to a remarkable degree. In my opinion there is no more profitable investment than that which looks toward the prevention and cure of diseases. Protection of health is not only a humane thing but a wise policy from a practical standpoint. A healthy people is a valuable asset. Therefore, North Carolina cannot afford to take any backward step. We must see that this work is carried on effectively."



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CHILDREN REQUIRE SUNSHINE FOR PROPER GROWTH

The lengthening sunshiny days of March mean release and health and happiness for countless little shut-ins of winter.

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
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Don't Spit Placards	Public Health Laws	Water Supplies
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Flies		

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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THE Health Bulletin



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DIPHTHERIA

The Control of Diphtheria is a Job That Must be Done Before Children Are Old Enough to go to School

It is now possible to eliminate diphtheria as a cause of death from North Carolina. Do you get it? Diphtheria, one of the terrible killers of the past, and even now responsible for many unnecessary deaths in this State, may now be banished entirely, driven out, abolished. How? By giving every child between the ages of six months and six years sufficient toxin-antitoxin to make them immune to the disease for life. Not antitoxin. That is the curative serum given to children who have the disease, to cure them. Many lives are everywhere saved in that way, which would be lost without the treatment. But what we are talking about is toxin-antitoxin, a definite laboratory mixture of the artificially prepared toxin-poison of the disease, and antitoxin serum in such proportion as to provide life-long immunity in the blood. This preparation, toxin-antitoxin, when a sufficient number of doses of a fresh product are properly given, causes the formation of an artificial immunity in the blood, exactly like the natural immunity possessed by some people. The point for every parent to observe right here, however, is that the preventive treatment must be used before it is worth anything. The fact that there is such a means abundantly available is not worth a cent unless utilized. A child must have a sufficient number of treatments given hypodermically by a competent physician in order to be immune to the disease. The family physician is the man to administer the treatments; but all city and county health departments provide facilities for its prompt use, especially to those parents financially unable to utilize the

services of private physicians. On account of the fact that diphtheria is much more prevalent in the late summer and fall months, we are publishing this article in the March issue of the BULLETIN in order to urge upon parents the importance of having their very young children immunized now. After the immunizing doses are completed it is three to six months before immunity is fully established. Therefore if a child has the preventive treatment in March it will be September before such child would be safe on exposure to the disease.

This is a problem that cannot be handled according to the usual method, that is, through the schools. The reason for that is that diphtheria can only be controlled through attention to children under six years of age.

We are presenting absolute proof of the foregoing statement in this issue of the BULLETIN. Please turn to the table of figures under the heading of "*Diphtheria Deaths In North Carolina By Ages*" and observe the age at which most deaths occurred. We are presenting in the table, as will be noted, the exact age at which every death in the State occurred during the five-year period—1921 to 1925 inclusive.

In the year 1921 about 91 per cent of all deaths from diphtheria occurred before the children had completed their 6th year. In 1922 about 83 per cent died during the same period. In 1923, 89 per cent; 1924, 83 per cent; and in 1925, 86 per cent. In other words, in no year during the five-year period was there more than 17 per cent of deaths from all ages over six years combined. Everyone should study the table care-

WHY WORRY ABOUT DIPHTHERIA



**PROTECT YOUR CHILDREN AGAINST DIPHTHERIA
BY USING TOXIN-ANTITOXIN--THEN YOUR
WORRIES ARE OVER**

fully in order to see without a doubt in the world that the control of the disease is a pre-school problem.

Now, just what does that mean? It means among other things, that the situation cannot be helped much by working through the schools and school organization, with the exception of the educational work done through the Parent-Teacher Association. It means that the work must be done for babies over six months of age on up to the age of three years, for the most part. So if children everywhere are to be protected from diphtheria by using toxin-antitoxin it must be done largely through the efforts of parents and practicing physicians. It is the duty of every practicing physician to urge the parents of every family in his practice to immunize all children under six years of age. The advice and suggestions of no one else is worth one-tenth as much on a question of this character as that of the family physician. The parents also nine times out of ten are more ready to listen to his advice when some member of the family, especially one of the children, is sick necessitating the call of the family physician. At such times the parents are concerned about the family health and have their minds centered on illness and its prevention as at no other time. The physician who makes a habit of this practice is serving the family doubly well and in addition he has the satisfaction of knowing that he is doing just as much to control a terrible disease as the research worker in the laboratory. He is also conscious of doing a very valuable public service; and one that no one else can do for the public. It is the duty of the parents of all small children to have their children immunized. Do not wait for suggestions from your physician, but look him up and talk it over with him, get his advice and most important let him begin the treatment at once.

For those people who have no regular family physician and who cannot afford to pay for the treatment, it is easy to secure this free from the health department, city or county, in about one-half the State. For those counties and towns where there are no organized health departments it should be the duty of the part-time county physician to provide free administration of the

preventive treatment when necessary. He can arrange for compensation through the county board. The point is every child in the State of North Carolina should have the benefit of this immunity. It matters very little through what agency it is procured, just so the children, all of them, get the protection which is their due. After all the cost is very small, and the systematic administration of toxin-antitoxin every year, in every county in the State, to all children born in the county, would be insignificant in cost compared to the saving of life and the driving out of diphtheria. So much for preventing diphtheria, the disease, with ensuing danger and often death. The ounce of prevention here is certainly worth the pound of cure, many of them. But for those people in every walk of life who are always slow in availing themselves of such things, if death from the disease is to be prevented entirely there is a solemn duty to perform. That duty, neglect of which is cruel and criminal, is to send for a competent physician at the very first appearance of symptoms in any way resembling diphtheria. Delay means death to the child. The physician also has an equally solemn duty, the neglect of which is criminal a thousand times over. It is the physician's duty when called to treat illness in children which may be diphtheria, to use antitoxin at once if in any doubt whatever about his diagnosis. He can get confirmation from the laboratory later, but he can never recover for the helpless child a single lost hour of time in dealing with such a treacherous disease as diphtheria. Any physician who makes a diagnosis of "tonsillitis" or "septic sore throat" in any child unless he is absolutely sure it is not diphtheria is assuming a very grave responsibility. He is in a class with the parent who contents himself with rubbing the outside of the child's throat with one what-not or another while the little one may be slowly dying from diphtheria. Therefore let us hope that it will soon be the fashion all over this State to give every child the preventive treatment to protect against diphtheria and so prevent possible remorse and regrets on the part of parent, physician, and health officer afterward.

SALADS IN MARCH DIETARY

This is the season of the year in our climate when people instinctively endeavor to procure green stuff of every available kind for food. Even the animals, such as hogs and horses, fight over bits of green food. Poultry revel in the delights of the rye patch, and so on. This is an age old instinct, which has guarded the health of man since his origin. In very recent years scientists have discovered a peculiar ingredient in foods called vitamins which is necessary to healthy life. They have found that nearly all green foods and leafy vegetables constituting the base of numerous salads are rich in what they call Vitamin C, the anti-scurvy vitamin. These foods are what we know as fresh clean raw vegetables and various fresh fruits. They can be made into any number of delightful salads by using different kinds of salad dressings. Nearly all the dressings have vegetable oil, fruit juices, such as lemon juice and vinegar; and eggs as the principle ingredients. These foods have an abundance of water in them, are rich in mineral salts and afford bulk.

Primitive man lived exclusively on nuts, fruits and leafy vegetables growing wild in the primeval forests which were his first home. Then came the era of the development of cooking and

the use of a greater variety of foods including various kinds of meats and bread from cultivated grain. It is a fact that has been observed by many writers that the poor people of all lands and countries, until very recent times, were the chief users of greens in their food. The rich people refused to eat such foods because they regarded it poor folks diet and because they were cheap and common and plentiful. However, now that such foods are known scientifically to be necessary to health they are utilized fully by the well-to-do, who find them just as delicious as poor folks have always done. This is well because the supply is just as plentiful as ever, and the increased demand for such food affords the opportunity to make a living for millions of people all over the earth. Thus the economic status of people everywhere is improved and the health of all the inhabitants of the earth promoted.

Dr. W. A. Evans, a syndicate health writer, quotes from a book on Salads by Arnold Shircliffe to the effect that "Leafy vegetables, coarse grains, bran, pure water, sunshine and exercise is a remediable prescription in preventive medicine accepted and agreed upon by those learned in the art of scientific nutrition."

PHYSICAL EDUCATION

Requests for a definition of physical education would doubtless bring almost as many interpretations as replies. And yet there is no more important element in the curriculum of school or higher educational institution than this. *The Nation's Health* has printed from time to time results of examination of students of all grades, which have shown, without exception, the lack of appreciation of physical impairments on the one hand or attempts at their correction, on the other. All schools have students suffering from physical defects which interfere with their educational advancement. These defects are the result of health neglect in early life. Many can be corrected or improved by careful health supervision and proper recreational activities.

We sometimes wonder how much real benefit the entire student body receives from the highly developed athletic activities of schools and colleges. Among the most imposing items regarding these contests are the number of spectators and the gate receipts. Would not the same financial outlay devoted to the physical development of the student body as a whole give greater return in better health and longer life? While there would be fewer "heroes" of track and field, there would also probably be fewer cases of heart or kidney disease, of defective vision, of other degenerative diseases in later life, because abnormal tendencies would have been corrected while they were most amenable to treatment.

Million dollar stadia are not necessary for a sound program of physical

education, and few of the other departments of an institution can point to such expensive adjuncts to their teaching facilities. When the department of health and hygiene is accorded equal budget recognition with the department of athletics in our schools and colleges a great advance in health betterment may be expected. The suggested change waits largely upon the time when educational directors will interpret their responsibilities in terms of healthy men

and women graduates rather than in championship games and gate receipts.

The above discussion is not to be considered as an attack on organized school athletics which should find a natural expression in interclass and intercollegiate games. It is useful, however, to suggest comparisons between trends in departments of our educational institutions in order to give proper emphasis to the work of each.—*The Nation's Health.*

A CASE OF SMALLPOX NOW INEXCUSABLE

It does seem that in a moderately intelligent and civilized state as North Carolina ought to be, that it would no longer be necessary to urge upon the people the necessity for vaccination to prevent such a dangerous and loathsome disease as smallpox. A recent vaccination is almost a sure preventive. It is clean. It is safe. It produces only one small scar. It assures one who is protected through vaccination that he cannot possibly become a menace to other people. It has the evidence of one hundred and twenty-five years successful use to recommend it. In all these one hundred and twenty-five years use of vaccination in all countries of the world, not more than one lost arm or life in a million reported as accidents following vaccination have ever been proved to be true. Not more than one-tenth as many deaths have ever been caused by smallpox vaccination as from scratches incident to the use of common pins in wearing apparel. Notwithstanding all the proved scientific safety and cleanliness of modern vaccination a few loud mouthed official minders of other people's business are always able to keep a few timid souls from availing themselves of the protection vaccination affords.

A case of smallpox was recently reported in one of the State's oldest and most famous boarding schools. This fact leads us to repeat one more time that it is now practically inexcusable for a case of smallpox to occur in any boarding school or educational institution of any kind, or in any charitable or penal institution. The first duty of the authorities of all such institutions is to protect the health of their proteges. They should demand protec-

tion against smallpox, typhoid fever and diphtheria as the very first requisite for admittance. These requirements are reasonable and easy to secure; and the requirement can be stated in the printed requirements for entrance, and should be rigidly enforced.

If any fool anti of whatever stripe wants to raise objection let him do so on the outside where his ignorance cannot so seriously menace the health of others. Every institution has the full constitutional right to prescribe the rules and regulations necessary to safeguard the health of its students or inmates and this right should be scrupulously exercised.

During the year 1925 there were one thousand nine hundred and twenty cases of smallpox reported to the North Carolina State Board of Health. During the year 1926 there were one thousand five hundred and ninety-four cases reported. During the year 1926 the State Board of Health wrote every physician in North Carolina who had recently reported a case of smallpox either in the latter part of the year 1925 or any time during 1926 asking the physician reporting it to answer the following question:

"We are endeavoring to ascertain what per cent of those having smallpox were previously vaccinated, also the year of vaccination. We notice that you reported the case or cases named below as having smallpox. Will you please fill in space opposite the name as to whether or not they had been vaccinated and return to this office."

In response to this request to the physicians who had reported these cases, living in almost every section of North Carolina, we received replies

concerning two thousand and eleven cases of smallpox, which number we think fully covers all the cases occurring in the State during the period previously stated. Of the two thousand and eleven cases of smallpox reported only sixty-two were reported as having been previously vaccinated. Of the sixty-two people reported as having been previously vaccinated four were vaccinated seven days or less previous to the time the eruption appeared, and therefore, of course, the vaccination was worthless as protection. Twenty-nine were reported as having been vaccinated not less than five years and not more than sixty years previous to the eruption. Some of the twenty-nine were noncommittal as to whether or not the previous vaccination was successful. Several of the long time group (two of these up to sixty years since vaccination) reported mild attacks. One case an Asheville physician reports was vaccinated twice before, but he did not say whether the vaccination was successful. Fourteen of the vaccinated cases had been vaccinated several times each during previous years but without the vaccination having been successful. Of the entire group of cases reported—that is, two thousand and eleven—only nine were reported as having been successfully vaccinated previous to exposure, and of the nine five were reported from the Eastern State Hospital for the colored insane at Goldsboro.

The above investigation with its astounding results unequivocally proves that smallpox is a disease confined to people who have never been successfully vaccinated. This investigation proves conclusively that it would be easy enough to eradicate smallpox entirely from North Carolina with little inconvenience, with absolute safety, and with one hundred per cent success through the simple expedient of vaccinating every citizen in the State every four or five years.

A large number of physicians report having been in practice anywhere from twenty to thirty-five years, and with almost a parrot like chorus add to their report that in all their years of practice they have never seen a case of smallpox occurring in a person previously vaccinated successfully. We quote below some of the remarks made by individual

physicians because of the very great interest concerning what they had to say.

One of the physicians reports that "none of the cases I have seen have been vaccinated. I vaccinated recently twelve exposures, some living in the same home, sleeping in the same room with a smallpox patient. I got twelve takes, and none of them contracted the disease." A mountain physician reports one patient never vaccinated until after exposure to the smallpox. Vaccination took only moderately, but the case of smallpox developed at the same time was very mild. One physician living in a piedmont county, after declaring that he had never seen a case of smallpox in a person who had ever been successfully vaccinated, mentioned one person in a family where the disease appeared, who had been vaccinated sixty years previously, but he did not contract smallpox on exposure. One of the interesting reports was of a man who had never been vaccinated, whose doctor made a diagnosis of appendicitis, which was proved at the operation according to the physician reporting, but who broke out with smallpox shortly after the operation. It is reassuring to note that this patient recovered. A county physician reports many cases of very mild type at a logging camp with only one virulent case, corroborating the opinion now held by epidemiologists that the two types may be coexistent in the same epidemic, but that they are separate and distinct types and that each is equally protected through vaccination. The physician in one of our mountain cities reports that in a family he was called to treat, that all members had the disease except one little sister who had slipped off previously and was vaccinated during a vaccination campaign against the orders of the parents. "That sister did not develop even one lump," so the physician reports, although nursing the other members of the family, including the fool parents. One of the interesting reports is from a physician who treated one severe case in a man eighty-eight years old, who had never been vaccinated. His wife, about sixty-five years old, had been vaccinated when a child and had a very light case. One unusual case is reported by a physician as being the

THE BLIND LEADING THE BLIND



Prevention of smallpox may be assured by successful vaccination. Every child before entering school should be required to show a certificate of vaccination. Be safe. Be vaccinated now.

second attack of smallpox for the individual, but he states that the first attack was reported as having occurred when the woman was a baby. There was no way to establish the first diagnosis. A Surry County physician reports a case in a man who had not been vaccinated, whose wife slept with him two nights after the eruption appeared. The wife and two boys were vaccinated, all successfully, and neither of the three, together with three girls in the family who had been vaccinated early in 1923, contracted the disease. This observation is not unusual for any physician or health officer to duplicate. One of the county health officers of the State says that not one case ever reported to his office has ever been

vaccinated. Another piedmont county physician reported the death of a smallpox patient from a virulent type of the disease, who had never been vaccinated; but the vaccination of ten of his children after exposure was successful and not one took the disease. One of the hard luck cases was reported from Randolph County and was that of a man who had four vaccinations without success, distributed during the previous fourteen years. The moral of that tale is "Keep on trying." If the first vaccination is not successful, it does not mean that one is immune to smallpox. In conclusion, one doctor reported that one patient did not believe in vaccination, but had a real case of smallpox, which he could not fail to believe in.

FIRE PREVENTION CLEAN-UP CAMPAIGN

In the State of North Carolina there were reported for the year 1926 two hundred and eighty deaths from fire accidents. A few other delayed reports may later be received slightly increasing these figures. The large number of deaths from this absolutely preventable accident thus about equals the deaths caused from typhoid fever.

Dr. Arthus Emmons, associate secretary of the American Public Health Association, and other officials of that association have joined enthusiastically with officials of the National Fire Protection Association in designating the third week in April as a "Fire Prevention Clean-Up Campaign." The chief aim of this activity should be the conservation of health, life, and property

along the lines advocated so sensibly by men like Herbert Hoover and others. We trust that every town, city, and county health officer in the State of North Carolina will join with all other agencies operating in the State, of whatever character, in making this third week in April effort a success.

It need hardly be said now that the average health officer understands that a clean-up campaign is in order every day and every week in the year; but if the public can be induced to reflect seriously for even one week on the great menace to life and property from destructive fires, carelessly started in nearly all cases, the effort will be well worth while.

PNEUMONIA DEATH RATE INCREASING

It has been estimated that in the past quarter of a century the death rate in the United States from pneumonia has increased twenty-five per cent. The fact is that in some states pneumonia causes nearly as many deaths now as tuberculosis and cancer combined. In North Carolina it causes more deaths than tuberculosis and more than twice as many as cancer. The mortality still remains high. Probably 25 per cent to 30 per cent of all people who have genuine lobar pneumonia die. People generally have never realized that pneumonia is one of the most dreaded

and deadly diseases physicians are called on to combat. It may be that if we had organized associations to spread publicity concerning its prevalence and dangers people might become more interested.

The cause of pneumonia is definitely known, but as yet there is no specific for its prevention or treatment. Nearly all physicians are agreed, however, that if all persons who have so-called colds, respiratory infections of any kind, with inflamed irritable throats susceptible to any kind of virulent infection, would remain away from poorly ventilated,

overheated, crowded places, like moving picture theatres, hotel lobbies and so on, safety from infection would be promoted.

When a patient contracts pneumonia, the quicker he gets in bed and procures the services of a good physician the better his chances for recovery will be. While the physician can do little in the way of treatment except "supportive," he can look ahead and guard against complications and better cope with them if occurring, all to the benefit of the patient.

Since writing the foregoing we have received the report of the United States Department of Commerce announcing the principal causes of death during the year 1925. Happily there was a decrease

throughout the registration area of the United States in the death rate from pneumonia. The decline, specifically speaking, was from 98 per 100,000 population to 94. A very perceptible reduction. The decline applied to North Carolina in about the same proportion as elsewhere. In order that you may readily understand even yet how high the rate is, it is only necessary to compare the rate from pneumonia deaths with those as a result of typhoid fever. In North Carolina, calculated on the same basis as pneumonia, the death rate from typhoid fever was less than 10 per 100,000 population. In short, pneumonia is now annually killing approximately ten times as many people in this State as typhoid fever.

SCHOOL ABSENTEEISM AND DENTAL DEFECTS

Now that the six months term of school is closing for the school year in this month, it would be interesting to know just how many days school children enrolled in the public schools of North Carolina have missed on account of dental troubles. The Virginia State Board of Education has published a report pointing out that something more than 50 per cent of the children enrolled in the public schools of Virginia had defective teeth, and that 40 per cent of all school absences in that state for the particular year the survey covered was due to dental disorders. Since the North Carolina State Board of Health commenced its dental work for school children in 1918 the percentage of dental defects on each subsequent survey has been constantly falling. The survey covers from 65,000 to 100,000 children per year, and in the beginning of the work in 1918 slightly more than 80 per cent of all children enrolled in the schools who were examined were found to be suffering with defective teeth. The survey for 1925 and 1926, covering nearly 90,000 children, indicated that the percentage at that time suffering from dental disorders needing attention was a little more than 45 per cent of the total examined. It will be seen by comparison of these figures that the percentage of dental disorders in North Carolina is very close to the percentage found in Virginia. Thus it may be sup-

posed that the progress in combating this condition is about equal in the two states so far as we know. However we do not have available the figures for the direct cause of absenteeisms as necessarily that report would have to come from the educational officials; but we are inclined to believe that the percentage would probably be found about the same. The reader who is fond of figuring out percentages according to mathematical custom can figure for himself or herself just how many hundred thousand school days such a percentage means would be lost to all educational efforts. Anyhow, all of us know that we are just beginning to make progress in the promotion of dental improvement for the coming generations. It is one of the most worthwhile efforts which could demand the attention of all public health workers, teachers, educational authorities, dentists, and physicians, all coöperating together.

THE RECKLESS DRIVER

He took a chance,
Did hasty Hans.
The chance he took
Was another man's

The other man
Lies maimed and shaken.
He had a chance,
But it was taken.

—The New York Times.

ANOTHER FOOLISH FAD

A year or two ago people were afflicted through reading in the newspapers from almost every quarter about the endurance dancing craze. The idea seemed to be a competition between fools as to who could break the record for continuous dancing. Naturally such a procedure was a very dangerous one to the health of any person indulging in it. Recently the newspapers carried several reports concerning a coffee drinking competition. As this is written the race at present seems to be between Minnesota, Texas, and Guilford County, North Carolina. The way the game is won is to establish a record for drinking more cups of coffee at one sitting than anybody else can drink. The fellow who had the belt, it seems,

had consumed eighty or ninety cups of coffee within a few hours time. This fad is even more dangerous than the dancing craze. It was a matter of physical and nervous and mental exhaustion after which there was some possibility of recovering. But the abuse of the stomach of any person by pouring into it several dozen cups of hot coffee at one time is an awfully dangerous thing. We are told in Holy Writ that our bodies are the temples of the Living God, the earthly home of the Spirit of God; and such abuse of our bodies cannot but exhaust them with the inevitable consequence which any extreme violation of the laws of nature calls forth. It is to be hoped that this fad will soon die and be forgotten.

SPRING IS COMING

We all remember Shelley's beautiful line "If winter comes, can spring be far behind?" To the poet the coming of spring means an opportunity to put forth his best endeavors in the building of rhymes which he hopes he can sell to the builders of books and magazines—for enough to buy him a few rounds of spring turnips anyhow. To the fuel dealers it means the coming of slack business and low income. To the householder who has been overwhelmed with worries in providing food and warmth for his family and combating the ills of winter it means a short period of happy relaxation before the different troubles of summer swamp him again. To the students in the schools and colleges it means the nearby approach to vacation, which to a great many of them spells rest and happiness. To the farmer and his family it means work and plow and

plant and then more work. To the innumerable housewives who have been busy keeping their little ones from falling into the fire and keeping them amused through the long winter period of confinement it means joy and the opportunity to let them get out of doors. To the little ones everywhere it means an opportunity to get into the glorious sunshine and open air, and therefore health and happiness. But spring to the conscientious health officer means a period of house flies, mosquitoes, and other pests, a menace to the health of his constituents, which keeps him busy day and night executing plans against the onslaught of such detriments to health. So we would urge everybody to join the health officers in every known reliable measure in preventing the breeding of the house flies and mosquitoes.

SORE THROAT

All of us frequently hear the answer from friends and acquaintances: "All right except for a miserable sore throat. I have had a sore throat for several days and nothing seems to help it." And so on. In fact nearly every one is afflicted at one time or another with a sore throat. When a conscientious physician is called to see a sick child, no matter what seems to be the trouble

with the patient, he always thoroughly examines the throat the very first thing. There are many good reasons for this. The child may have diphtheria. If so it early manifests its presence in a peculiar condition in the throat which is familiar to the experienced and careful physician. A sore throat is one of the early symptoms of scarlet fever, measles, influenza, in

addition to diphtheria. Then there is septic sore throat which is often followed in children by dangerous complications. In adults an inflamed, sore throat is often one of the first symptoms of laryngeal tuberculosis which is observed by the patient. A particularly dangerous type of tuberculosis. There is often a sore throat which is local such as tonsillar abscess or more properly abscess behind the tonsils which is very painful, but not particularly dangerous.

The wise thing for any person to do who has a sore throat which persists for many hours is to consult a physi-

cian. A good physician alone can differentiate in the beginning between the different types of sore throat and decide which may be only local and which may be the beginning of some dangerous general disease. It is particularly important to have a physician examine the throat of every child who may appear sick in any way by manifesting symptoms through nose or throat especially accompanied with an elevation of temperature. The trouble may be diphtheria; and if so minutes are precious and every one lost before proper treatment is instituted, may mean the difference between recovery and death.

QUACKERY

Doctor Lewellys F. Barker of Baltimore is authority for the statement that "more varieties of irregular practice are in existence today than at any earlier period in the world's history." Doctor Barker says also that while quackery can never be entirely eradicated, which we all know, it can be reduced to a minimum by making it "unprofitable, disreputable, and penalizable." In our own opinion, and judging from our experience in the State of North Carolina for more than twenty years in the work of promoting the public health of the people of the State as a whole and in the private practice of medicine, we are satisfied that Doctor Barker is correct in his statements. We also know that to accomplish anything leading toward the establishment of the three preventives listed by Barker is a slow and difficult process and requires constant efforts toward educating the public in all matters pertaining to their health. One of the greatest difficulties in getting the interest and attention of people centered on the seriousness of quackery and all it includes is the fact that the greater number of newspapers in the country still carry an enormous amount of advertising from these quacks. It is reliably said that at least one-twelfth of all the advertising, including magazines and newspapers, done in the United States of America is paid for by the quackery interests. One of the country's leading drug journals, representing the best of the drug interests in America, estimates that the national sales of "proprietary medicines" by

drug stores amount to two hundred and seventy-five million dollars per year, which sum is twice as much as that paid for the legitimate prescriptions of physicians.

Naturally we should ask ourselves the question as to what is the cause of the enormous prestige now accorded to quackery. Possibly some of it is economic. It is easier and cheaper for a man to call at a drug store counter, or for that matter a grocery store, department store, or a cross-roads store, for an extensively advertised bottle of "proprietary medicine," recommended alphabetically to cure everything from acne to warts, than it is to go to a reputable physician, have a proper examination, and a thorough one, concerning whatever trouble he may have, and receive the proper prescription, if any is needed. Doctor Howard Fox, president of the American Dermatological Association of New York, in a presidential address of that association at Washington in 1925, under the title of "Dermatologic Quackery," says that "the shortcomings of the medical profession itself have often been considered as contributory causes at least to the prevalence of quackery. Thus we have been accused of too much drugging and too ready recourse to surgery, conditions which at present have been largely remedied." Doctor Fox says further that "too little attention is paid to the more trifling ailments of mankind and the temporary alleviation of subjective symptoms. Where the scientific physician fails in studying the psychic needs

of his patient, the quack is at his best. His chief stock in trade is his thorough knowledge of human nature. The honesty of a real physician is often a handicap with certain types of patients." Every newspaper and magazine in the country who has the courage to refuse the false advertising matter of quacks and nostrums should receive the encouragement of every decent liberty-loving person in the country.

There is no denying the fact that many people look on the written word in advertisements as Gospel Truth. No matter how intelligent an argument to the contrary may be advocated by a physician or an intelligent layman of his acquaintance, there is a large class of people who would put such advice and information by known friends and acquaintances as not to be compared with the advertising matter in his favorite paper or magazine. A national insurance company has recently emphasized this point in its advertising matter, carried in all the big magazines in the country, by printing a picture of the old time street corner faker who would travel the court circuits and the smaller county seat towns throughout the year and every night get on his goods box under his torch light or lamp and exhort his hearers to buy his particular kind of nostrum. In this paper the insurance company quotes this famous old time faker in the following language:

"Don't take my word for it that this medicine will cure you! Don't take anybody's word! Read the label and see for yourself." Naturally all we old timers have seen that very thing happen, not only in the night, but in the broad open daytime. We have seen the faker mount the stand, the goods box, as soon as the judge adjourned court for noon recess. We have seen the crowd gather around his box and after his hypnotic spell of eloquence is properly spread out over the gaping crowd, we have seen his confederate bob up in the back of the crowd, raise a dollar bill and call for a bottle. Right then the sales would commence and business would roar for about an hour, until his supply was sold out. Naturally the liquid always had a terrific smell and beautiful color. But with all due respect to the old street corner faker

who did a considerable part of the damage done to the public in selling his disreputable wares; today it is the licensed so-called drug stores, the grocery stores, and the department stores throughout the country that sell a great deal of stuff that is not alone worthless but in cases of beginning cancer and often diphtheria and other acute diseases cause purchasers to lose valuable time in procuring proper treatment for the ailment. Within the past two or three years there have been listed something like sixty different medical cults making a living and more out of the gullible public in the United States. Some of these cults have such imposing names as "geo-therapy," "naprapath," "vitopaths," "telathermy," "sanipractors," "naturapaths," and so on. Some of this outfit advertise adjustments and cures for syphilis, leprosy, locomotor ataxia, and so on down from the most harmful to the least dangerous type of diseases. Many of them unblushingly advertise treatment for diphtheria and such dangerously acute diseases.

One of the most dangerous and widespread practices current today throughout the country is the enormous amount of dangerous drugs used daily by women as cosmetics. Many of the widely advertised cosmetics which are purchased and used in large quantities contain such poisonous drugs as copper, mercury, lead, arsenic, and many other equally dangerous drugs. These are sold openly in various forms, such as shampoo powders, hair washes, toilet powder, face enamels, face creams, complexion powders, skin bleaches, and so on. The National Druggists Circular is authority for the statement that the American public requires each year approximately eighteen million packages of rouge in addition to all the other toilet accessories. When we know that so much of this stuff is dangerous to health and should not be used, the statement is appalling.

One of the newest and at present one of the most popular forms of "beauty uplift" is the blossoming out everywhere of innumerable beauty parlors with their quack cosmetic surgeons. Possibly the reason for much of this dangerous surgery, such as the subcutaneous injection of paraffine by beauty parlor

employees, is a result of the fact that most "surgeons have so far continued to look askance at this work," and the insistent demand of a certain class of the public has naturally tempted the advertising quack through the beauty parlor to venture into this field which has so many dangers, both to the patient as well as the quack who undertakes it. There would be considerably more reason and sense today in the barbers undertaking to do major surgery than there is for beauty parlor attaches to practice medicine as many of them are doing in such things as face lifting, wrinkle removing, and so on.

In conclusion, it is probably true that the richest field for quacks and nostrum vendors is through exploiting the victim of venereal diseases. Naturally these victims fear disclosures of their condition, even to friends, let alone their physicians, and are easy prey to the quack and the nostrum vendor, especially as long as they have money;

and when they hear these false and misleading advertisements, often posted in public toilets and other places, advertising as certain cure for diseases like gonorrhea and syphilis, "blood remedies," and so on, it is not surprising that they yield and part with their money, make their condition worse, further menace the public through the distribution of their disease, and delay sometimes forever a cure.

We have no remedy to offer for these things except the old one of honesty in advertising; and we would also urge the physicians themselves to be more plain spoken with the public in matters of these kinds, and he should also study the mental needs of his patient along with the physical and be governed accordingly. Sometime we hope the public will realize that the age-long struggle against quackery is not a selfish effort on the part of any physician, but is simply a conscientious discharge of his own duty to the public for the protection of his fellowman.

PREACHER AS DOCTOR AND DOCTOR AS PREACHER

In these days of rejuvenated controversy over such things as mixing church and state and religion and politics there is a bewildering amount of talking going on. We read in the same issue of the same newspaper that "there is no conflict between science and religion" and on the next page some pseudo scientist blatantly proclaims that "science and religion has nothing in common, no relation whatever to each other." And so it goes. One says a scientific man cannot possess religion because science deals with demonstrable facts and religion is based on faith. Another says the chief aim of science is to destroy religion and undermine all faith. Out of the welter of wind and sound generated by two-by-four bigots on each side it is refresh-

ing to read such statements as Dr. Allan Craig of Chicago made recently in a speech at Charlotte. Dr. Craig was in Charlotte attending a meeting of Physicians and Surgeons and was asked while there to address the Charlotte Parent-Teacher Association. The Associated Press published the following interesting report of his speech:

"Clergymen and doctors need to get closer together and 'preachers should do more doctoring and doctors should do more preaching' Dr. Allan Craig, Chicago, associate director of the American College of Surgeons, told a district conference of parent-teacher associations in session here today.

"Dr. Craig came here three days ago for the North Carolina Hospital Association Meeting and with other noted physicians has been holding a series of clinics.

"The physicians urged that no laxity be permitted in the proper inspection of schools and precaution against disease by school authorities.

"Religion and science are not contradictory," said Dr. Craig, "I am sorry for the scientist who cannot see anything more in this world than what his test tube and microscope reveal. You cannot separate the mental, moral and physical natures of a man and still have a real man. Every clergyman needs to be a medical doctor too."

"Appealing for better public understanding of the doctor's problems Dr. Craig said:

"The doctor is very human; but in emergency he must express his sympathy not in words but in action, so he has gained the reputation of being hard-boiled. More and more physicians are learning to feel their responsibility and they carry burdens of which their patients do not dream; they realize that after all the patient trusts his doctor next to his God and they try to be worthy of that trust."

THE NEWER ANATOMY

A State Board of Health nurse overheard the following conversation between two friends meeting at a bargain sale.

Said the very fat lady to her very thin friend, "Yes, it certainly is very bad weather for 'colds,' but do you want to know what I do for a cold?" "Sure," responded the thin friend. "While I am not bothered much, Joe frequently has an awful time getting rid of a cold." "Well," said the first lady, "when I feel one coming on, I just take about a half teaspoonful of ginger and put it in a cup and fill the cup with boiling water. After I drink that I take ten cents worth of castor oil. I drink all this at bedtime and it lies all night there in my *lungs*, and then next morning when I get up I am all right and the bad cold was kept off, and is gone."

"You know I like to read doctor's books which tell all about your frame, you know, so I will know all about such things."

"So long," "Ta ta."

THE HOUSE FLY PEST

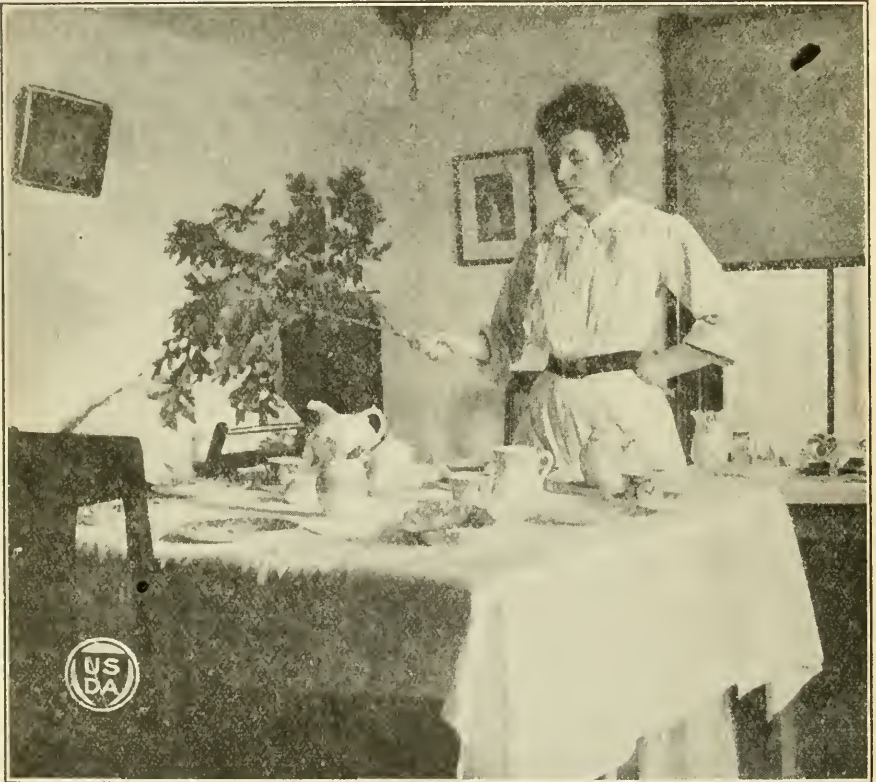
This is the one month of the year in which active efforts directed at the prevention of the breeding of house flies is most effective. March should be the one big clean-up month over and above all others. If all stables could be thoroughly cleaned and the manure hauled out in the fields and covered over with plowed earth, or if it could be piled in compost heaps with sufficient mixture of chemicals such as borax, the house fly menace for the whole summer could be greatly reduced. It is the breeding of the early flies which give the pest such a start that makes measures for control later so unsatisfactory.

The house fly represents one of the paradoxes of nature. Its eggs are laid and it is incubated and hatched in the nastiest stable filth; but on emergence as a full grown adult fly into the air and sunlight it is at first one of the cleanest of insects. But like the pig that always returns to its wallow, the fly does not remain clean many seconds after it emerges from its "so-called puparium." From egg to full grown fly may not take over two weeks, ac-

cording to temperature. During the maggot or grub stage, which every farm boy is familiar with, they are easy to destroy, if the eggs have been permitted to be hatched. Any fermenting organic matter affords suitable places for the laying of the eggs. As stated above stables, especially horse stables, afford ideal breeding places. After the eggs have been laid and the maggot stage reached, the grubs may still be destroyed before hatching, but to do so requires very hard, prompt and careful work. However it is much better to prevent the laying of the eggs if possible. Naturally the best way to do this is to destroy all adult flies before they begin breeding in the very early spring.

Each adult female fly lays several hundred eggs. They deposit the eggs in batches at intervals varying from two to four weeks. Fermenting organic matter is not only plentiful around horse stables, but is present in filthy privies, open garbage piles, rotting trash of any kind. All such make good breeding places.

WILL YOU HAVE TO DO THIS IN YOUR HOME THIS SUMMER?



Screens and abolishing the breeding places of house flies, makes unnecessary this primitive method of chasing the fly which somewhat lessens the inconvenience and annoyance but not the danger. The only effective way of being rid of flies is to destroy the breeding places. Flies are an evidence of filth. Keep the house and premises clean.

Cleanliness

Careful physicians and surgeons every day repeatedly ask the question with reference to some article handed them for use, "Is it clean?" They do not mean free from visible dirt, that may be seen without asking, but they mean, is the article surgically clean, sterilized, free from germs. So, if every farm home as well as every home in town or city could be kept absolutely clean all the time, house flies would no longer constitute one of our public or personal health problems. By clean premises we mean clean and free from all unnecessary accumulations of rubbish of every description. The home, the yard, in fact, the whole place and the places of surrounding neighbors.

The use of the automobile has been a great boon to cleanliness. House flies do not breed around the place where the automobile is kept unless there is an accumulation of rubbish, old tires, paper, rags and so on. It is therefore necessary to keep the garage clean and free from such accumulation.

The question is often asked, "How far do house flies travel?" The question is of especial interest to farmers who keep their own farms clean and the breeding places of flies reduced to a minimum, and yet who are troubled with flies from careless neighbors. Dr. Howard of the U. S. Government Service says that house flies are strong fliers and that it is common for flies to travel for half mile or more when attracted by the smell of cooking food. He cites at least one experiment in Texas some years ago where it was proved that house flies may fly up to fourteen miles. This he regards as probably unusual; but at the same time urges care in preventing breeding for all the farms comprising a community if it would be free from flies. The same author says that the house fly alone carries thirty distinct diseases and parasitic organisms.

Some Eradication Measures

Absolute cleanliness.

Use of fly traps.

Use of poison.

Thorough screening (including all open fireplaces).

A TENANT FARMER'S WIFE AND HER COW

About the middle of January, one of the school nurses employed by the State Board of Health for several years, and who has helped make history in nearly every community in North Carolina, was on her way to visit a school far down on the great Central Highway near the Georgia line. The nurse overtook a tenant farmer and his family moving to a new location. The head of the family was up in front driving the truck slowly. On the truck was loaded the household furniture, small children, chickens, etc. Following along behind the truck was the man's wife on foot, leading a fine milk cow with one hand and carrying a large photograph in an oval frame with a glass over it under the other arm. The woman recognized the nurse as she approached them, and called out to her to please tell that fellow who wrote the article on "Milk" in the January HEALTH BULLETIN, urging the tenant farmers to provide their children with an abundant supply of good milk, that here was one tenant family who never failed to do that very thing.

Keeping the well child healthy is just as essential as bringing the seriously undernourished child to a healthful gain. The same general health habit program is used for the healthy, the seriously underweight and the children whose health quotient lies between these two extremes. Intensive feeding, more frequent rest periods, longer hours of sleep are given the undernourished children, surgical correction and medical and dental care being added to the program whenever needed.

A perfect body is not built when heredity gives poor fiber, weak cells and diseased tissue. Care, food, good habits, wholesome mental attitudes, cannot undo all that heredity bequeathed; but they can build bodies infinitely better than otherwise they could have been and can make daily living happier and more wholesome.—*Hygeia*, November, 1926.

SYPHILIS

By WILLIAM S. ROBERTSON, M.D.

Syphilis is a chronic, infectious and contagious disease caused by a germ known as the *treponema pallidum*. Once this germ has gained entrance to the body it is carried by the lymph and blood to every organ; there is no part of the body it does not invade except the enamel of the teeth.

Contracting the Disease

The disease may be contracted in one of three ways. First and most commonly, by actual contact with an infected person; second, by inheritance (congenital form); third (very rare), by contact with some object which has been contaminated by a syphilitic person such as a cup, pipe, towel or food. Acquiring syphilis by actual contact with a syphilitic does not necessarily imply immorality. Many cases are transmitted in kissing; many an innocent partner in wedlock has been infected following the infidelity of the other. Inherited syphilis may be evident at birth or there may be no symptoms until years after, the disease then appearing in the late or tertiary form. However contracted, syphilis runs virtually the same course, the tendency being to exhibit periods of latency (inactivity) followed by periods of relapse (activity). There is no disease which it may not resemble closely. In fact, there are thousands being treated today for one thing and another, whereas the real cause of their ill health is syphilis. So true is this that there is an old saying among physicians: "When the patient doesn't get well, treat syphilis." It is surprising how many patients in whom syphilis has not been suspected, DO improve when antisyphilitic treatment is administered.

For convenience, the disease is described as occurring in three stages: Primary or first, Secondary or second, and Tertiary or third; however, these stages are all one and the same disease.

The First Stage of Syphilis

The first or PRIMARY stage is seen as a small red spot, pimple or ulcer, known as a chancre or hard chancre. This is painless and may be unobserved by the patient. It sometimes disappears without treatment. When this sore first appears, blood tests to determine its nature are valueless because not enough of the syphilitic poison gains entrance to the circulation in the early weeks to enable its detection in the laboratory. However, secretions from this sore will be found to contain the germ if examined under the microscope. This is the most favorable time for beginning treatment and if the disease is diagnosed at this stage, the chances of an ultimate cure are greatly increased, provided treatment is begun at once. If the case receives medical attention at this stage there should be no further progress of the disease, but the infected person should be kept under medical supervision even in these early cases for a period of months and perhaps years.

The Second Stage of Syphilis

If the primary stage or chancre is not diagnosed and treated, there appears in from four to eight weeks time various kinds of skin eruptions, headache, joint pains, sore throat and mouth, falling of hair, fever, swelling of the glands, etc. This group of symptoms is known as the SECONDARY stage. These symptoms may be very slight and in some instances may be even absent entirely. On this account the SECOND STAGE SOMETIMES ESCAPES THE PATIENT'S NOTICE. The secondary stage requires energetic and persistent treatment which rapidly removes the symptoms, but disappearance of the OUTWARD evidences of syphilis by no means indicates that the individual may safely discontinue treatment. A mistake often made is the assumption by the patient that the disappearance of the symptoms means a cure.

The Third Stage of Syphilis

The TERTIARY stage manifests itself in a variety of forms. There may be deep ulcerating sores of the skin and soft tissues, destruction of bony tissue, dilation of the large blood vessels followed by their rupture and internal hemorrhage, weakening of the heart muscle, large tumors of the various abdominal organs, and what is most serious of all, involvement of the brain or spinal cord resulting in many forms of insanity and paralysis. Some types of brain and spinal cord invasion are absolutely hopeless. This third stage may appear soon after the secondary stage or may be delayed for as long as thirty years.

As paradoxical as it may seem, the cases which show the most external disturbance, i. e. those pronounced skin lesions, are in reality the least harmful, although to the layman they appear to be the most serious. It has long been observed that syphilitics having marked external symptoms escape syphilis of the brain and spinal cord, such as paresis (a hopeless form of insanity), and locomotor ataxia (an equally grave spinal cord affection).

Syphilis Not Always Evident

It is rather commonly supposed that syphilis is a disease chiefly confined to those individuals comprising what is known as the "under-world," and that infected persons are social and moral outcasts covered with sores and ulcers—an altogether revolting picture. While such cases are sometimes encountered, the vast majority of syphilitics are mingling unsuspected with society. In some respects it is to be regretted that the disease does not ALWAYS manifest itself in conformance with the popular idea for, were this true, its victims would seek early relief and persist in treatment for a sufficient length of time to insure a cure or at least to be put in a condition which would no longer menace those with whom they come in contact. Again, if every case of syphilis produced the repulsive skin conditions mentioned above, the public would demand that immediate and adequate measures be put into effect to control and eradicate this great threat against human life, for although it is not gen-

erally appreciated, syphilis stands high among the chief killers of mankind as shown by the following statistics:

The Toll of Syphilis

Syphilis

Is the cause of 100% of paresis or softening of the brain.

Is the cause of 100% of locomotor ataxia.

Is the cause of 25% of all insanity.

Is the cause of 50% of all heart disease.

Is the cause of 50% of liver and kidney disease.

Is the cause of 60% of sterility.

Is the chief cause of apoplexy and paralysis in early life.

Is the cause of nearly half the abortions and miscarriages.

Is one of the chief causes of mentally defective children.

WE DAILY READ AND HEAR OF CANCER AND TUBERCULOSIS, THERE ARE NATIONAL AND INTERNATIONAL ORGANIZATIONS SPENDING MILLIONS OF DOLLARS ANNUALLY IN THE ATTEMPT TO CONTROL THESE TWO DISEASES, YET SYPHILIS KILLS MORE THAN BOTH COMBINED. There are said to be ten cases of syphilis to every one of tuberculosis. It occurs in both sexes, the young and the old, the rich and the poor, the high and the low—in every stratum of society. No disease is so universally distributed. It is no respecter of any persons, anywhere, at any time. There are said to be ten million infected individuals in the United States alone. From statistics of hospitals, where the Wassermann blood test for the diagnosis of syphilis is done routinely, reports are given out which vary from a minimum of 5 per cent to a maximum of 30 per cent of patients entering these institutions whose blood shows that they have syphilis. As every medical man knows, many cases who have syphilis show NOTHING in the blood, so that these figures are—to say the least—no exaggeration.

An individual having syphilis is considered by life insurance companies as a bad, if not an impossible, risk. The germs having lodged in the various organs of the body set up an inflammation which so weakens these organs that in the event of any other sickness,

the patient readily succumbs. To illustrate, a syphilitic with a weakened heart stands a poor chance to overcome pneumonia which in itself calls for additional heart work. The death certificate of such a patient may read that he died of pneumonia, whereas the real cause of his death was a heart weakened by the previous invasion of syphilis. It is said that EVERY CASE of syphilis produces changes in the heart muscle which incapacitates the organ for its usual work and causes it to give way under the added strain of any other disease. So it is seen that syphilis not only kills directly by causing paresis, locomotor ataxia, liver and kidney diseases, and in being responsible for one-half of stillborn children, but also INDIRECTLY as its victims readily die of other diseases, since their vitality is already below par.

A Few Words of Advice to Those Who Are Infected

1. Don't waste time or pin your faith on patent medicines—they are practically inert.

2. Don't visit your druggist and ask him for advice. He doesn't know any more about the TREATMENT of diseases than does your baker.

3. Don't be treated by "advertising doctors." They are unscrupulous quacks who prey upon the unfortunate.

4. Don't answer advertisements of "blood medicine" manufacturers. They are in the same class as the quack.

5. Don't believe that when the external signs have left, you are well. Syphilis is a draft drawn on your health reserve payable with compound interest—and the obligation will surely be paid in some way.

6. Don't neglect taking treatment for at least one year and as much longer as your physician advises.

7. Don't marry for at least THREE YEARS after becoming infected. It is especially important for you to be persistently treated if you intend marrying, and before this step is taken you should have been free of any symptoms whatsoever for at least two years.

8. Last and most important, DON'T GET THE DISEASE. Syphilis is preventable. The best thing one can do for his health is to AVOID the chance of sickness but if it so happens that you do join the immense army of syphilitics, avail yourself of the services of a physician in your community well qualified to treat such maladies, place yourself under his care and follow with exactness his instructions until in his judgment it is safe for you to discontinue treatment. In this way, and in this way only, is it possible for you to escape paying the debt which syphilis demands of its victims.—*West Virginia Health Bulletin.*

WHAT SOME PEOPLE WANT TO KNOW

ASPIRIN

"I wonder if you have any literature showing the danger in taking aspirin. I am a teacher and boarding in a family where there are four children and four other teachers, and aspirin is their panacea. I hate to see them take it so often, but it is useless for me to say anything as they think it harmless. I would be glad if you would send me some articles showing the harmful effect it has on the human system, which I could show to them."

Reply

The teacher who made the above inquiry of the State Board of Health, has plainly and squarely stated the chief danger which lies in the promis-

uous use of aspirin and other quick fire headache remedies. She states they think it harmless. Very few people in their right senses would deliberately dope themselves with drugs if they felt such drugs were harmful. But most of them who do so think there is no subsequent harm to be feared. That idea is erroneous. Almost any drug in the world if used indiscriminately is capable of doing harm.

Aspirin is a coal tar derivative. It is a powerful drug. It depresses the heart. It lulls sensation. In case of beginning serious disease it disguises symptoms and often means the loss of valuable time by delaying the inaugura-

tion of proper treatment. There is never a case of headache without a cause for it. Aspirin in no way is a remedy for the cure of any headache. When given under a physician's direction for the re-

lief of pain it is a useful drug. But like any other drug its use should be very much limited. The average physician looks on aspirin as a dangerous drug and one to be used very sparingly.

CANCER

The November issue of the *International Journal of Medicine and Surgery* published in New York City has a long editorial and several special articles on the subject of cancer control. The London correspondent of that journal describes the 94th annual meeting of the British Medical Association. He has some very interesting statements under the title of "Etiology and Prevention of Cancer" by Dr. John Brown of Blackpool, part of which we quote:

"Among many papers read one of the most interesting was that by Dr. John Brown of Blackpool dealing with the etiology, prevention and biological range of cancer. He stated that he had spent much time in going through statistics with regard to the sites of cancer in the body and with regard to occupation, age groups and social classes. In 1918 he made special inquiry respecting cancer mortality in colliery centers. He found that in these centers there was a low death rate from cancer among colliers and their wives, largely due to the active and strenuous nature of their occupation and their plain and efficient dietary. In such places, on the other hand, as Kensington, Hamstead, Blackpool, Southport, Bath, Hastings, Cambridge and

Oxford, the mortality from the disease was much higher.

"As for cancer of the breast and mouth, Dr. Brown declared that the trouble could be easily discovered before cancer developed, and it could be prevented. In the early stages of cancer many could be cured without operation. In this respect we had much to learn from America. We could and ought to adopt any and every successful method adopted in America. There was no specific germ, there was no specific treatment. In the early stages there was rarely need for operation. Nature was always on the side of the patient.

"There should be free clinics for consultations at stated times for all persons not under medical treatment. The free clinics should be under the Ministry of Health, and the health authorities should make the arrangements, preferably coöperating with the hospitals, universities and colleges, so that free examination and advice would be open to all.

"All women over thirty and men over thirty-five who have suspicious growths or other symptoms indicative of cancer should certainly avail themselves of those free consultations. It had been urged that suspicious growths and cancers should be made notifiable, but the public was not ready for that."

OUR MENTAL HEALTH

By R. R. CLARK

It was Macbeth inquiring of the doctor about his patient:

Doctor: Not sick, my lord,
As she is troubled with thick-coming
fancies
That keep her from her rest.

Macbeth: Cure her of that:
Canst thou not minister to a mind diseased,
Pluck from the memory a rooted sorrow,

Raze out the written troubles of the
brain,

And with some sweet oblivious antidote
Cleanse the stuffed bosom of that
perilous stuff
Which weighs upon the heart?

Doctor: Therein the patient
Must minister to himself.

Some progress has been made since Shakespeare's time in ministering to minds diseased. Macbeth's doctor answered that the "patient must minister

to himself." We still proceed much on that theory. Wonderful progress has been made in checking physical ills within the life of the present generation, and more is due to be made. The average span of human life has been greatly lengthened by teaching the prevention of disease. The secretary of the State Board of Health, in a New Year message to the people of North Carolina, invoked the aid of all health agencies and all civic agencies of whatever name or denomination, to unite their forces to "reduce mortality, lessen morbidity, and prevent disease." By way of New Year resolves it is suggested that each member of the family be examined by the family physician to determine defects, if any, and correct them to prevent serious trouble later; that all possible be done to prevent the spread of communicable disease by the use of vaccine and such other safeguards as are recognized by health authorities.

Is it possible to educate the people in the principles of mental health as they are being educated in the principles of physical health? Some of the psychiatrists believe something can be done in that direction. It is not claimed, of course, that it will be possible to prevent and cure mental disease with the success that is being demonstrated in bodily ills. But it is maintained that information as to the principles of mental diseases could be given to the public in such manner as would change the attitude toward mental ills, which would result in earlier attention to the patient, with the checking of numerous obvious dangers. First there should be removed, under the process of education, the false tradition, coming down through the ages, that mental sickness is a disgrace, a curse of God. It is less disgrace to be mentally sick, declares a psychiatrist, "than to have typhoid fever or any other preventable disease, because we do not know how to prevent mental sickness as we do typhoid fever" or other physical ills for which preventive remedies have been found; and wherever a physical disease exists that could be prevented, there is the disgrace of neglect.

When one is known to be mentally ill, is so recognized by his family and his

friends, nothing is done about it unless the sick man is troublesome. The *Daily News* discussed editorially recently the case of the man from another state, arrested in Greensboro for a double murder committed in the state whence he came. It was stated that members of his family knew he was mentally unbalanced, but they thought it was better for him to have freedom than to be confined. He killed two people. If he had been given attention he might not have been helped, but two lives would have been saved. These cases occur often, more frequently than the public know. Sometimes the disease is not detected until the outbreak occurs. Often it is, but out of consideration for the patient and the feeling that the family is disgraced by a case of mental illness, nothing is done until the patient becomes unmanageable. The family and the public are subjected to serious menace. The diseased mind may at any moment, so far as the laity know, convert an apparently peaceable citizen into a raving madman. Thus are families killed and public safety endangered as the result of a maniac at large.

Would it not be possible to so teach the principles of mental health that some might be saved? Certainly it seems reasonable that it might be done to an extent that would gradually eliminate the foolish tradition of disgrace, and that at least would make for the safety of the families of the mentally sick and the safety of the public as well. We are doing little now except provide places of detention and care for the mentally ill. That is necessary, and the mentally sick need much more than they get. But if, as in the case of the physically ill, there could be examination and treatment before disease became serious, might it not be checked? Our attitude is such that we would seriously resent a suggestion that we undergo a mental examination. That is considered a serious reflection. But why should we not be as much concerned about our mental health as we are about our physical health? Of course our mental health is more important even than our physical health. Then why guard the one and neglect the other?—*Greensboro Daily News*.

THE MACHINERY OF THE MOUTH

By ERNEST A. BRANCH

Director Children's Dental Clinic, Wake County Health Dept., Raleigh, N. C.

A train came into the terminal loaded with human freight and crowds were there to meet friends and loved ones. The engineer came down from the cab of the engine and examined the great engine or "Iron Horse," looking for the minutest defect or loose bolt or nut and making notations on a yellow sheet of paper from a book he had for that purpose. Down the train could be seen "Car Knockers" examining the wheels and brake shoes and hose connections of the air brakes. Upon inquiry you are told that this is a regular procedure, not only when the train comes in from a run but again before it goes out. This is no new sight to any of us—we see it every day and would not think of starting on a journey if we thought this inspection had been overlooked.

In this machine the materials are the very best and every piece tested for its fitness. So too, it should be with the mouths of our children when we remember that they are likened to a piece of machinery. We are just now beginning to stress and realize the importance of what good teeth of the temporary set mean to the health and development of the child.

First, the parts of this machine—the child's mouth—must be built right of proper and sound materials and we call this nutrition. In order that it be built right, as the engine is, the mother must know that her health and diet during pregnancy is responsible for the good or bad temporary teeth, that they should be under the care of both their dentist and physician and consult with both.

After birth also, good materials must still be added for the well building of this machine. The child should be breast fed when possible and if not, then cow's milk should be substituted but fed under the direction of a physician. Fruits and vegetables are an important part of every child's diet and it should be remembered that in cooking leafy vegetables 95 to 97 per cent of the mineral content goes into the

liquor the vegetable is cooked in and should not be thrown away but fed to the growing child. Whole wheat bread is also very important and necessary. Fruit sugars should be substituted in a great measure for the refined sugars in preserves, jellies and candies.

Second, after selecting and building of good materials, the next step is Occlusion. This means that the parts of this machine must fit. Much of this fitting depends on treatment of teeth as well as their Natural growth.

It has been said, and perhaps justly so, that three-fourths of the irregularities of teeth were caused by the premature extraction of the temporary teeth. The temporary tooth should whenever possible remain in the arch until the permanent tooth is ready to replace it. Tonsils, adenoids, thumb-sucking, etc., account for the other irregularities.

Third, parts of the machine must be kept clean just as the engineer cleans his machine and we call that Mouth Hygiene. The child's teeth should be cleaned when two are in place and cleaned regularly. The best way to have the child do this is to let him stand before a mirror and watch himself "brush." Then, too, the mother should set a good example and let the child see her clean her own teeth daily.

If it is necessary to inspect the locomotive on each trip, and it is, then how much more important it is that we have the mouth of our children examined regularly and the teeth cleaned, decays arrested and irregularities discovered and many times corrected, by just a little attention on the part of the mother and dentist.

The first tooth of the child is eagerly looked for but when the stomach and eye teeth are in the arch many mothers sing, "It is done," and never see in the child's mouth again until the child is crying with an aching tooth. Perhaps that is a sixth year molar of the

permanent set. This is the first tooth of the permanent set, and as its name implies comes in about six years of age and does not replace any other tooth.

The child should visit the dentist three times a year until the temporary

teeth are out and then twice a year in order that this machinery of the mouth may be examined and kept in repair, health, and strength.—*The Bulletin of the North Carolina Dental Society.*

COOKING AND EATING

The poet has sung all over the world that civilized man can do without nearly everything, but he must have cooks. In some circles the standard of a community's civilization (so-called) is appraised by the length of waist line and broadness of neck of its adult population. Such a population naturally must be large consumers of meat or meats of every description. So cooks to cater to jaded appetites must be on their jobs. Returning travelers from New York, where all the provincials have as much interest as the children of Mother Goose had in London Bridge, report that the highbrows and self styled intellectuals are now dining at lunch counters. They demand seven different kinds of meat at each meal, and if a vegetarian should venture among them and call for raw lettuce he would be promptly thrown out on his ear. Pigs are baked whole behind the counters before the customers eyes, and every fat globule is then and there consumed, while the phonograph plays "Oh Honey, Can't You Eat Some More." To the thoughtful observer this is simply the reaction that is taking place against the fashion for the last two or three years which has demanded the shoestring style for women's figures. In order to effect this extreme in slenderness it was necessary for the average healthy woman to confine her diet to about one

Boston bean and a glass of water for each meal. As a result of this particular one of fashion's foolish decrees, some sanatoriums have already noted an increase in tuberculosis in many women victims of the reducing diet. In numerous other instances malnutrition with a multitude of accompanying ills have been noted. In short many people are always ready to commit suicide the moment fashion says the word. So, it is but natural that the next slogan shall be back to gluttony, and therefore the news from New York is not surprising. Sensible people will continue to do as they have always done, eat moderately at regular hours, of a well balanced, well prepared variety of good food. Such food will comprise some meats but a very limited quantity, plenty of milk and fruit, and an abundance of raw vegetables in salad form together with certain well cooked vegetables. In North Carolina where it is possible to procure green vegetables of one sort or another from one's garden nearly every day in the year, there can be no excuse for any family not having some kind of fresh vegetable for at least one meal every day. Of the quota of meats a very large proportion should be fresh fish, chicken and so on, and a minimum of the heavier meats such as pork.

MOSQUITO CONTROL FOR INLAND TOWNS

It may be that there are a number of towns and cities in North Carolina, especially those not situated adjacent to swamps or marshes and not on any large rivers, that are troubled each summer, especially in the dry summers, with mosquitoes. To such towns the experience of Durham in an effort at control made in 1926 would probably be of very great interest.

For several years past, particularly during 1925, which was one of the dry years, the Durham department of health received many complaints on account of the prevalence of mosquito pests in certain parts of the city and suburbs. The kind of mosquito was the plain biting kind and not the kind of mosquito which carries malaria or other disease. Therefore the trouble

was more in the nature of a nuisance and a disturber of the comfort and peace of the people affected. The Durham health officer during the winter of 1925-26 requested the State Department of Health to advise with them as to the best methods of controlling these pests. The State Board of Health complied and assigned one of its staff officials to assist the local health authorities in at least making a survey, estimating what could be done, and also estimating the cost.

After the survey was carefully made and the cost estimated, the joint board of health of Durham, city and county, made the necessary appropriation for draining, brushing or cleaning, and subsequent oiling of breeding places of mosquitoes. The survey indicated that nearly sixty miles of open streams and tributaries were involved in the area, which required to be regraded, undergrowth, especially grass, cleaned off, and in some instances new channels opened up. Naturally much of this draining and cleaning under the heads of streams and tributaries meant ditches or other artificial drainage area which had filled in and become mosquito breeding places.

The work was started about the middle of May, and an average of twenty laborers, properly supervised, were kept exceedingly busy for about fifteen weeks. In the work and in the control of breeding places it was found that seepage from septic tanks and waste from kitchen sinks, which places discharged often into ditches or open drainage streams, afforded one of the biggest problems. A mixture of oil containing used crank-case oil with about ten per cent of kerosene was the oil used as a larvacide. Thorough oiling was done by the use of knapsack sprayers, carried on the backs of laborers. Nearly ten thousand gallons of this oil was used and found to be very effective. The larger branches or creeks which did not go dry in places did not afford much trouble. However cleaning was thoroughly carried out and brush removed.

Being a very dry summer there was very little breeding of mosquitoes on account of gutters of houses or down spouts becoming stopped. Naturally in a wet year, with frequent thunder

showers and very much rain, these sources would be prolific of much trouble.

One of the interesting findings of workers was that quite frequently a householder would complain of mosquito pests, and on investigation it would be found that the breeding of the mosquitoes was taking place just a few feet from the discharge of the kitchen sink or the door steps of the house. Naturally the control of mosquito breeding on private premises such as this is a matter very largely for the education of the individual householder. We feel quite sure that the work in Durham has gone a long way toward accomplishing this purpose.

The exhaustive and thorough work done by the Durham department cost the city and county only a little over eight thousand dollars, and nearly all of this was expended on actual work and the purchase of oil, and very little of it for supervision and inspectors' salaries. On account of the fact that the city health officer and his regular force carried out all the supervision necessary, with the exception of less than five hundred dollars paid for inspection, in order to make the work complete and thorough, no money was spent for this purpose. There is no doubt but that the reduction in mosquito breeding and the comfort and satisfaction of the people of Durham as a result of the work many times over paid for its cost. To any city or town in North Carolina that is troubled in the same manner (and we know there are quite a number of them) the State Board of Health would like to urge that protective and preventive measures be adopted early, and the month of March is one of the best months in the year to start the machinery moving.

BUT THE GOAT DIDN'T

Doctor: "Have you had any nervous shocks lately?"

Patient: "Yes sah, other day going to de preachin' I went across a field with a big billy goat in it and Mandy said don't be afraid youse got religion an' dat goat can't hurt you. I said, 'Yes I know it an' you know it, but de goat don't know it.'"

FAMILY HEALTH

By B. E. WASHBURN, M.D.

Every progressive business (and every successful family should certainly be conducted on progressive business methods) should take stock (an inventory) at least once a year in order to find out definitely its financial and community standing. If the concern or family has been managed successfully there should be financial gains or at least a record of expenditures showing investments made with the object of advancing the family's position. But aside from this there should be evidences that the family has played some part in the development of the community.

December is the best time for a family inventory, the close of the year being most suitable for comparing present with past conditions and for learning if there has been progress. Such a comparison cannot but be an incentive for good, no matter how humble the family, if it is remembered that the thing of greatest importance is not the position a family may occupy at any given time but the general direction in which the family is progressing.

An important part of such an inventory is a consideration of the family's health, since upon this is largely dependent the family's happiness and welfare. In making a health inventory, the following information should be gathered:

1. The total number of days of sickness of all the members of the family during the year.

2. The diseases causing this illness.

3. The amount of this illness caused by diseases which are preventable.

4. Having obtained this information, estimate the monetary value of the time lost from work and from school on account of preventable illness.

5. How much money has been spent for doctor and medical bills in treating these preventable diseases?

6. How much money has been spent for patent medicines? Did these effect cures or merely relieve the symptoms? Is their continued use necessary?

7. How much money has been spent for dental work? Was this work necessary as a result of the teeth not being properly cared for? In the children, was it the result of neglect of the temporary (milk) teeth?

8. Add the expenditures under 4, 5, 6 and 7. Find out how the preventable diseases are spread. The Bureau of Health Education will be glad to send you literature explaining the nature and prevention of such diseases.

9. Compare the cost of this sickness with the amount it would have required to prevent these diseases. The following facts will assist you in making the comparison:

- a. If there has been typhoid fever, dysentery, or bowel complaints in the family compare the cost of these with the amount necessary to build a fly-proof, sanitary latrine; the great majority of these diseases being spread through human bowel material being taken with the food.

- b. If there has been smallpox, compare its cost with the cost of having the family vaccinated.

- c. Malaria (chills and fever) is prevented by draining or oiling standing water and by taking small doses of quinine. Make a comparison of the cost of treatment with that of prevention.

- d. Bad colds, influenza, bronchitis, pneumonia, and other diseases of the respiratory system can be warded off by sleeping with plenty of fresh air in the room, and by having the living rooms properly ventilated. The use of the common drinking cup at schools, churches, and other public places is often responsible for the spread of this class of ills.

- e. The catching diseases of children are usually spread by taking the children into crowds when these diseases are prevalent in a community. Not only should such diseases be avoided but children with suspicious colds should not be carried from home to endanger others with whom they come in contact.

f. If there has been rheumatism in the family the cause should be sought in diseased teeth and tonsils, since the foci of infection which causes rheumatism are often in the mouth and throat.

g. Headaches, backaches, and many nervous troubles often result from the irritation caused by improperly fitting shoes.

h. Indigestion and stomach troubles

are often caused by improper eating, unsuitable food, and bad cooking; with too much meat and not enough vegetables in the diet.

10. Make a list of the methods by which the health of the family can be preserved during 1927; then make a resolution—and don't fail to carry it out—that you will put these methods into effect.—*Jamaica Public Health.*

THE SODA HABIT

There is a condition known as acidosis, which is a very serious trouble affecting many people at times, and especially serious when occurring in very young children in connection with colitis or some other serious disease. Doctors everywhere have to work hard to combat that condition. It is, of course, as its name implies, a condition in which there is an excess of acid present in the blood. On the other hand, there is a condition existing in adults which is much more widespread than is at first realized. It is a condition in which the exact opposite from acidosis is present. That is, there is too much alkali in the blood. There are several causes for the condition, but one of the common causes, and the one we are calling attention to at this time, is the habit of promiscuously taking a dose of soda, ordinary bicarbonate of soda, cooking soda, following a heavy meal or whenever a distressed condition is felt in the stomach. The taking of soda is an especially ready standby for what chronics call "sour stomach." It is a pernicious and dangerous habit, and one that should be indulged in very slightly if at all. When once the habit is started, it is perfectly natural that the size of the dose is gradually increased; it is taken more often, and thus the habit is established and the patient sooner or later pays the penalty in a disturbed condition of the whole digestive system and in which the chemical balance of the blood is upset.

While we are writing we may as well also call attention to the fact that many people use entirely too much soda in cooking, especially in the cooking of vegetables. If too much soda is used in the cooking of green vegetables, and at the same time if too

much water is used in the cooking, the most valuable vitamin content in the vegetable is destroyed or is lost in the water. Like everything else, moderation and extreme care should be exercised in the use of soda, just as with any other useful agent or drug which becomes dangerous when abused.

AIDING IN THE FORMATION OF GOOD TEETH

One of America's foremost physicians says "if expectant mothers received ample, well balanced diets, in which green vegetables were abundantly supplied, and cow's milk was regularly taken, and if pregnant women spent more time in the open air, if babies were kept more constantly out of doors and placed in the direct rays of the sun for a good part of each day and if they were given a sufficiency of milk and codliver oil for the first two years of life more could be accomplished in regard to the eradication of the decay of teeth than by all other treatments put together."

THE FOAM OF MAD DOGS

Many vain attempts have been made to discover why the foam in the mouth of mad dogs is such a powerful agent for the transmission of rabic virus. It has been established that the micro-organism of rabies exists only in the nerve tissues and is propagated only by them. Dr. Roux, director of the Pasteur Institute, has announced to the Academy of Sciences that Messieurs Manouelien and Viala have discovered the explanation sought. The tongue of the dog contains large numbers of nerve

cells, probably tactile, immediately below the epithelium; in these, in cases of rabies, one finds a large accumulation of Negri bodies. In labioglossopharyngeal paralysis, which is associated with rabies in the dog, the dog

clicks his tongue frequently against his teeth or the objects that he bites and bruises the delicate epithelium, which allows the Negri bodies to be distributed throughout the saliva.—*The Journal of the A. M. A.*

YOU AND YOUR BOY

By THE UNITED STATES PUBLIC HEALTH SERVICE

A father, unobserved by a group of boys which included his small son, was an accidental eavesdropper on their unusually serious conversation. A new baby had recently arrived in the neighborhood and the discussion centered on the question, "Where do babies come from?" Various theories were put forward, but none seemed to be above suspicion. Finally the father heard his own boy's voice.

"Aw, shucks," the boy said, "let's go ask my father. He knows and he always tells the truth."

It was a proud father who overheard those words. He knew that many a boy would not go to his father with this question, that many who went would not get a true answer. But his boy trusted him, and he would prove that this confidence was justified.

Why shouldn't he tell the truth? Certainly it was far better for his boy to have the real facts than to believe—for a time—any one of the series of lies which seemed to be current. He remembered how it had been when he was small. He had said something to his mother about the baby brother, but she had laughed and talked of the doctor. Doctors carried interesting things in their bags, he had thought, but hardly baby brothers. Then one day when the gang was together an older fellow had told a different story and had laughed and said something in an undertone which wasn't clear. He had wished that he could ask someone about it who knew and wouldn't laugh. It had taken a long time and lots of thinking before things were straight in his mind. No; his boy was going to know the truth.

But how many fathers and mothers do tell their children the truth? How many find it easier to satisfy the child's curiosity for a time—by some evasive

or even false reply? Do they not see that by so doing they are destroying the child's confidence in them, that they are forcing him to depend upon some other source for information which he is sure to seek? This other source may prove reliable; more likely it will not. More likely, as several careful investigations show, it will be an older boy who thinks he knows, or an ignorant casual acquaintance. From such sources the child gets altogether false ideas concerning the whole process of reproduction and the relations between the sexes. These false ideas only too frequently lead to bad habits and the bad habits to infection with one of the serious venereal diseases. Under these circumstances, is the father or mother altogether blameless?

What about your boy? Has he ever come to you with this question? Did you tell him the truth? If you did, he will thank you for it. If you didn't, or if he hasn't come to you, now is your opportunity. Do not let him continue to run the danger of filling his mind with false ideas. They are the first step toward wrong habits and you can protect him against this first step.

An American soldier in France was saying "Goodby" to a Y. M. C. A. worker who was on her way home. He had come safely through the battle of the Argonne, but the deadlier "battle of Paris" had caught him unprepared. He was slowly recovering from one of the venereal diseases.

"You're a teacher, aren't you," he said. "Are you going to keep on teaching the same old things I was taught?"

"No, not exactly," answered the American girl. "What changes do you think we ought to make?"

"Teach them about themselves," he answered, "even if you have to leave

out a bit of cube root and grammar. I've never missed them over here. But good God, if I'd only known. It's been so hard to learn."

You Are the Best Teacher for Your Children "Teach Them About Themselves"

The United States Public Health Service has prepared pamphlets for the use of mothers and fathers who need help in giving their girls and boys this most vital information. These pamphlets are listed below, and you can obtain the ones you want by writing to the United States Public Health Service, Washington, D. C. In writing, be sure to write your name and address plainly and also to give the correct title and number of the particular pamphlet desired.

Pamphlets for Boys Under 10 Years of Age

The Wonderful Story of Life (for boys).—V. D. B. 59b.

For Older Boys

Keeping Fit.—V. D. B. 55.

For Young Men and Adults

Manpower.—V. D. B. 6.

The Facts About Venereal Diseases.—V. D. B. 63.

Pamphlets for girls have been prepared which are companion leaflets to those listed for boys. If these are desired they will be supplied.

Pamphlets for Parents

Sex Education in the Home.—V. D. B. 61.

To Read to the Children

The Wonderful Story of Life (for boys).—V. D. B. 59b.

The Wonderful Story of Life (for girls).—V. D. B. 59a.

CONFIDENCE NECESSARY TO CONTROL

"I never lie to a child," said a woman who has been more than ordinarily successful in handling difficult children. "Love must be the basis of control, and a child will not come open unless he has complete confidence in you. So I never lie to or deceive a child in the least particular.

"For instance, I took charge of Johnny when he was a little six-year-old savage. Johnny was bright, but he was the terror of his schoolmates, sauced his teacher and would not mind his mother. He was a constant source of trouble wherever he went.

"I began by making friends with him. I disarmed him by showing him that I really loved him. Within a few months Johnny was a different boy. He now respects the rights of his playmates and has thus become a popular play leader and good fellow. He minds his teacher and is no longer the incorrigible he once seemed.

"Kindness and love will win, but there can be no true love when complete confidence as a foundation does not exist."—*The Healthy Home*.

THE FIRST DUTY OF MEDICINE IS NOT TO CURE DISEASE BUT TO PREVENT IT—Sir George Newman.

TRADE UNIONISM, NEVER!

"Nursing is fast becoming a trade union." This accusation is not new; we find it on the lips of many doctors and laymen. Let English nurses answer for us in the following quotation from the College of Nursing *Bulletin*:

"The trades union official is concerned with workers whose work involves the ponderables of life; the material thing which can be weighed and measured, bought and sold. He recommends adjustment of wages on the data of the cost of work per hour, and can so justly assess a wage limit, in

that for one hour's work by an industrial worker, it is possible to estimate a money equivalent.

"A profession deals mainly with the imponderables of life, factors which cannot be weighed and measured, bought and sold for profit. Such factors as ministering to the spiritual needs of the people, giving knowledge in teaching, administering justice, and practicing the art of healing.

"From the outset we are faced with the fact that any money equivalent for services rendered which custom may

have established, is a purely artificial one, since there can be no money equivalent for ministering to spiritual needs, giving knowledge, dispensing justice, or healing the sick; and in an ideal State these services would be available for all equally as essential services for the State.

"Taking healing as our main example, the physician can heal without charge or cost; his service is of an intensely individual nature, and his work has its roots, not in commerce, but in the virtue of compassion; a compassion furnishing a motive for work so strong that science has become its handmaiden.

"It will readily be seen that to organize a profession is a very different proposition from organizing an industry, and further that it is impossible to adjust the methods employed by the trades unions to the needs of a profession, or to shackle the progress of science and the arts with the fetters of trades union regulations.

"Since *collective bargaining*, the main weapon of trade unions, cannot be effective without the right to *withdraw their labor*, it is manifestly impossible to apply trade union principles to the medical or nursing professions, since though it may be possible to abandon an industry in the interests of the workers with a mere loss of money for all concerned, to leave untended the sick persons and young children would involve the loss to them of their health, and even in many cases of life itself. There is no eight hour day for the sick whom we serve, and the need for our service is as urgent and abiding as is the suffering we seek to relieve.

"That the conditions under which the nurses carry out their varied duties need reform is widely recognized today, and many efforts are being made to carry these reforms into practice. Nurses need both protection and representation."

Just as surely do these conditions obtain in the United States. The nurse needs representation on hospital and community boards; she needs protection in her isolation.—*The Trained Nurse and Hospital Review*.

SAFE MILK

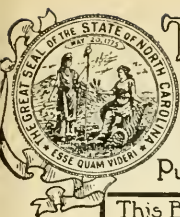
The North Carolina State Board of Health has had an officer in the field for more than two years, aiding in the work of producing safe milk from a sanitary point of view. The work of this officer consists in part in securing the adoption by towns and cities of a Standard Milk Ordinance promulgated by the United States Government; and subsequent to adoption advising with local authorities in the execution of the ordinance. This work is meeting with success in increasing volume and is resulting in a supply of milk of standard purity for most of the larger cities and towns. One of the most encouraging features of the work is the increased consumption of milk brought about through the removal of fear concerning the safety of market milk.

In a survey of eight cities adopting the Standard Ordinance figures for the average daily sales of milk were available for the years 1924 and 1926. The increase noted in the latter year represented a gain of eight per cent over the former.

FARM LABORER'S DIET BEST

Of several groups of white mice fed on various experimental diets, those fed the fare of an Essex farm laborer were found to have the highest fertility, according to a report in the *Journal of the American Medical Association* of some studies carried on in London. In spite of the popular theory that a highly civilized diet has an effect on the incidence of cancer, those mice fed on a wild diet had the highest cancer mortality.

The wild diet consisted of wheat, oats, barley, greenstuffs and water. Proteins and green food were the laborer's diet. On a tea diet of meat, tea, biscuits, bread and butter, the mice hardly bred at all. Other diets were a canteen lunch diet of meat, vegetables and sweets and an overroasted diet. The lowest cancer mortality appeared among those fed on the tea diet. There was no evidence that fried and overcooked food was causing an increase of cancer.—*Hygeia*.



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A VACATION FOR HEALTH



Treat yourself right and make plans right now for a visit to Western North Carolina this summer. The above photograph made by the State Highway Commission illustrates some of the roads and scenery you will find everywhere up there.

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
Colds	Influenza	Tuberculosis Placards
Clean-up Placards	Malaria	Typhoid Fever
Chickenpox	Measles	Typhoid Placards
Diphtheria	Pellagra	Veneral Diseases
Don't Spit Placards	Public Health Laws	Water Supplies
Eyes	Prenatal Care	Whooping Cough
Flies		

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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PELLAGRA

In 1926 Pellagra Caused the Death of Four Hundred and Fifty-Eight People in North Carolina

Pellagra is a disease of people who eat too much bread, grits, rice, gravy and syrup, and too little milk, lean meat, green vegetables and fresh fruits. It is caused by eating a diet which is not balanced by the proper amount of each of these two kinds of foods, and which needs more of the latter to balance it. The disease is prevented, and is also cured, by drinking enough milk and eating enough lean meat, green vegetables and fresh fruits.

Four years ago we published the foregoing paragraph together with quite a lot of other information on the subject of pellagra. We called attention to the fact that in that year and the preceding years the mortality from pellagra in North Carolina was high enough to be of grave concern to health officers and physicians as well as all other people in North Carolina at the time. That was in 1923. During that year there were two hundred and twenty-four deaths, which meant a death rate, according to our population then, of eight and three-tenths per one hundred thousand. During the year 1926 there has been reported to date four hundred and fifty-eight deaths in North Carolina, or a death rate, according to our present population, of sixteen per one hundred thousand. It will be seen that the number of deaths have more than doubled during the last four years, and the rate is now almost twice as high as from typhoid fever.

Pellagra is a disease to be greatly feared, and certainly a disease to be prevented. In a strict sense of the word it is a preventable disease, regarded for the past several years as

one of the "deficiency" diseases. That means a disease caused by a deficiency in diet necessary for human balance and continued over a period of a sufficient number of years to produce vital tissue changes. Physicians and health officers, as well as domestic science teachers and all of us qualified to discuss the matters of diet, should repeatedly and constantly emphasize to sick and well the importance of a varied, common sense diet all the time. Food may be provided, as so often is the case, for children; but unless the children are forced to partake of a variety of food which their system needs, the very fact that the food is there is, of course, useless and means nothing.

History

According to Garrison, the first written description of pellagra was by Gaspar Casal, a Spanish physician, in 1735. His book, however, was not published until 1762. The disease was called by him "rose sickness." In 1771, Frapolli, an Italian physician, published a carefully written description of the disease, in which he designated it by the name "pellagra," by which it has ever since been known. Although first noted in Italy in 1771, within a period of thirteen years the disease had become so widespread and serious in that country that a hospital under royal authority was founded for the study of its nature. Medical opinion then, as since, was divided concerning many phases of the malady. A new era in the study of the disease followed the publication of an exhaustive paper

about 1810 by Marzari, in which he claimed that the cause was due to eating Indian corn. That theory was later ably championed by the great Lombroso. For at least a century following, the medical profession in Europe was divided into "Maize" and "Anti-Maize" groups; many of the latter maintaining that the disease was not a definite one, but, like indigestion, was a manifestation of other diseases. Since 1780, Italy and Roumania, in both of which countries it is endemic, have been considered the disease centers. Previous to the advent of the present century the disease was unknown in North Carolina, and if it had ever been present was not recognized. The first contribution to medical literature on the subject in North Carolina was made by Dr. Edward J. Wood of Wilmington, and Dr. C. H. Lavinder of the U. S. P. H. S., in two epochal papers presented by them to the annual meeting of the North Carolina State Medical Society at Winston-Salem in 1908. These papers presented the history of the disease and described the results of their joint research work made at Wilmington for several years previous to that time. At the same time Dr. John McCampbell of the Morganton Hospital presented a valuable contribution on Pellagrous Insanity, covering studies he had made during the previous four years.

The North Carolina medical profession and the people of this State owe a great deal to these pioneers in the profession, who, with prophetic vision regarding the seriousness of the appearance of such a disease, had the patience to exhaust every effort in a scientific study of the question, and the courage to go on record in presenting their conclusions. The debt to Dr. Wood is especially large, because of his persistent and patient studies in the field of diet as a causative factor in this disease.

As a result of his ability to visualize all the conclusions of preceding investigators, as well as to do creative thinking, Dr. Joseph Goldberger of the U. S. P. H. S., through a series of experiments, has placed all considerations of this disease since 1916 on a sounder basis than ever before. As a result of

Goldberger's research work, pellagra is now regarded by a majority of medical men the world over as a "deficiency" disease. Whether or not the conclusions of this majority is final we do not know, but we do know that the disease is of dangerous significance to every citizen of North Carolina today.

Cause of Pellagra

What is the cause of pellagra? There are three different opinions held by those who have studied the disease. The largest group is made up of those who believe that it is caused by an improper nourishment of the body, or by the improper action of something in the starch and sugar diet when the proteins of milk and lean meat, and the vitamins of green vegetables and fruits, are left out of it. This idea is supported by the fact that the disease is found in people who live on a one-sided diet of bread, grits, rice, gravy, and syrup, and that it improves and often gets well when the diet is balanced by adding milk, lean meat, green vegetables and fruits to it.

A second group believe that the disease is caused by a germ and that it is infectious in nature. The germ has not yet been found. However, it may be found at some future time. The disease of tuberculosis was known and was thought to be infectious for a long time before its germ was found.

A third and more recent group believe that pellagra is caused by poisons which are made by a class of germs that grow in the intestines, but only under special conditions, and that the most favorable special condition is a diet rich in starches and sugars and poor in proteins and vitamins. This is reasonable. Tuberculosis is a germ disease and is infectious in nature. But many people who work in hospitals for tuberculosis never have the disease. The people who have tuberculosis are those who reduce their resistance to disease by poor habits of living. So the germs of tuberculosis grow in the body only under special conditions. Pellagra may be infectious likewise, and especially under the condition created in the intestines by an unbalanced diet. There

are specialists now working upon the disease, searching for a germ as its cause.

But the one fact that all who have studied the disease agree upon is that it occurs in people who live mainly upon a carbohydrate diet that is unbalanced because it does not have the proper proteins in it. The disease has been produced in prisoners by feeding them upon a diet of only biscuits, corn bread, grits, rice, gravy and coffee. And it has been cured by adding milk, lean meat, green vegetables and fruits.

Whether the disease is caused by a germ or not, our present knowledge of it makes the diet the most powerful thing that we have for controlling it. By manipulating the diet we can produce the disease or cure it, although future knowledge may show that we are doing it by growing or killing the germs that cause it.

People who drink plenty of milk and eat lean meat, green vegetables and fruits do not have pellagra. And those who have it are benefited by adding these foods to their diet more than by anything else.

Probable Symptoms

Pellagra has three main symptoms: a skin eruption; a bowel disorder; and an affection of the mind.

The skin eruption is the most characteristic symptom of the disease. It tells the tale when the looseness of the bowels and the weakness and nervousness, which may have come before it, have failed to do so. It begins like a sunburn and may afterwards peel off. It sometimes turns to a dirty brown color and becomes thickened, rough and scaly, and cracks or peels. An important thing about the eruption is that it comes out at certain places on the body and usually at the same places on both sides of the body. The backs of the hands in grown people and the tops of the feet in children are common places for it to begin. Other places where it often appears are the neck, face, elbows and knees.

In grown people a complaint of loss of strength, with indigestion or nervousness, or both, coming on or made worse in the spring or summer and

improving in the fall and winter, with or without the skin eruption, is often met with. A burning or scalding feeling of the mouth, reddened tongue, burning of the hands or feet, and loose bowels, are also often met with, and are enough to justify a suspicion of the disease if the patient is known to be living on a diet of biscuits, corn bread, grits, gravy, and syrup, with little or no milk or lean meat. There is no use to look for pellagra in a person who is in the habit of drinking a lot of milk and of eating meat.

Diet Suggested by Goldberger

The following is an outline of a bill of fare as an example of a diet which will prevent pellagra. To make it suitable for the treatment of a case that has already developed, substitute more milk, lean meat, meat juice, and eggs. This diet is advised by Dr. Joseph Goldberger, surgeon, U. S. P. H. S., whose study of pellagra has done much to make it a disease that can be controlled:

Breakfast—Sweet milk, daily. Boiled oatmeal with butter or with milk, every other day. Boiled hominy, grits, or mush, with a meat gravy or with milk, every other day. Light bread or biscuit with butter, daily.

Dinner—A meat dish (beef stew, hash, or pot roast, ham or shoulder of pork, boiled or roast fowl, broiled or fried fish, or creamed salmon or codfish cakes, etc.), at least every other day. Macaroni with cheese, once a week. Dried beans (boiled cowpeas with or without a little meat), two or three times a week. Potatoes (Irish or sweet), four or five times a week. Rice, two or three times a week, on days with the meat stew or the beans. Green vegetables (cabbage, collards, turnip greens, spinach, snap-beans or okra), three or four times a week. Corn bread daily. Buttermilk, daily.

Supper—Light bread or biscuit, daily. Butter, daily. Milk (sweet or buttermilk), daily. Stewed fruit (apples, peaches, prunes, apricots), three or four times a week, on days when there is no green vegetable for dinner. Peanut butter, once or twice a week. Syrup, once or twice a week.

COMMUNICABLE DISEASES AND SCHOOL ATTENDANCE

The Average Parent Is Willing and Anxious to Aid in Preventing the Spread of Communicable Diseases

The satisfactory control of communicable diseases, even in the large cities with thoroughly organized, centralized and fully manned health departments, is a hard and difficult problem, to say the least. In the smaller cities and towns and in rural districts it is one of the most unsatisfactory questions with which health officers have to deal. The spread of diseases such as measles, whooping cough, and the simple respiratory diseases among school children every year costs this State an immense amount of money in lost time, disrupted school work, and demoralized attendance. Every report issued by the State Department of Education strikingly illustrates the havoc wrought by these diseases every year. The illustration is emphasized by simply comparing the two sets of figures—the one stating total enrollment and the other average attendance. The average attendance column is always many thousands less than the total enrollment. Nearly all of this discrepancy is explained on account of the presence of communicable diseases, most of which are preventable.

We are writing these lines about the middle of February and writing in the manifold capacity of health officer, physician, and parent of school children. After more than twenty years experience as practicing physician and in health department work which has covered activities in the country districts and in a small town with the town and county health work as well as with the State work, our study and observation has convinced us that nine times out of ten the parents are ready and willing and anxious to cooperate with the schools and health departments in controlling these diseases. The problem of how it can be done, however, remains largely unsolved. If every case of smallpox, whooping cough, measles, and scarlet fever, to mention no more of the diseases, was severe enough in its onset to present the classical symptoms, the problem would be much easier to solve. We all know, however, that such is not the

case; that most of these diseases start spreading through very mild and unrecognized cases.

Sometime about the middle of November a child moved to town from another city and entered a particular grade in one of the primary departments in one of the Raleigh schools. The child had a mild cough, which no one suspected as being whooping cough. There were some twenty children, or nearly half of the grade, who had never had whooping cough and who were thus susceptible. The teacher of the grade, a very intelligent, observing woman, nor the parents of the child suspected whooping cough. The disease ran a very mild course, the child got well and still nobody suspected the trouble. Two or three of the more susceptible of the children in the grade, some three or four weeks after this particular child entered, developed the same kind of mild symptoms and just about the time the schools adjourned for the Christmas holidays had the same kind of cough that the little child had brought in from elsewhere. Symptoms being exceedingly mild, no whooping cough in the particular neighborhood, none known in the school at the time, and though the fathers of two of the children who commenced coughing were physicians of long experience neither of them suspected whooping cough. Finally about the latter part of January two other of the susceptible children in the grade, belonging to different families, began coughing and about the first week in February both of them developed symptoms severe enough for diagnosis to be made, especially as the pediatricians in town had recognized that whooping cough was present in an exceedingly mild form. So the health department of Raleigh did the proper thing in notifying the parents of all the children in the two or three grades affected, and all of whom had been exposed, that whooping cough was present and in compliance with the law directed them to keep their children who had not had the disease away from school for the proper length of time, until any

child in the incubation period of the disease either developed whooping cough or could be declared safely beyond the danger period. The result was, in the particular grade being written about, out of an enrollment and almost constant average attendance of forty-four the attendance dropped to twenty-four. Nearly half the children therefore walked out in a body.

Now the conclusions to be drawn from this experience, which probably can be duplicated in practically every school in the State at some period during the school year, are that everybody was awake and alert, everybody concerned from health department to teacher and parent, everybody desirous of doing their duty and protecting other children as well as their own; and yet, despite all the precautions and all the efforts made, whooping cough gains a foothold and demoralizes the school for an indefinite length of time. It is possible that somebody sometime or some aggregation of somebodies sometime will be wise enough to prevent such occurrences by looking far enough ahead and devising some means to

avoid such disastrous loss of time to school and to children also. But to this time very little progress has been achieved along this line except what has been done through the control of such diseases as diphtheria and smallpox through vaccination. The encouraging aspect of the whole situation is the fine progress made in eliminating smallpox, diphtheria, and other such diseases which heretofore have played havoc with school attendance. We hope that at no distant date preventive vaccine of a practical nature, like the preventive diphtheria vaccine, which will prevent the disease will be perfected so as to control whooping cough. The same thing is to be hoped with reference to measles, and when these two diseases can be controlled like diphtheria and smallpox, hundreds of thousands of dollars will be saved to the taxpayers of North Carolina every year in preventing loss of time in school work, to say nothing of the prevention of sickness and expense incident to nursing and caring for so many little patients.

LENGTH OF QUARANTINE IN SCARLET FEVER

It is practically impossible to set an inflexible period of time for the isolation and quarantine of a patient with scarlet fever in order to prevent the disease being imparted to others. The reason for this is because some patients recover much more quickly than others. The present law recommends that a quarantine "placard must remain as specified for a period of twenty-one days from the onset of the disease or until written permission is given by the quarantine officer." Thus the law very wisely leaves the matter, within certain minimum limitations, entirely to the judgment and discretion of the attending physician.

If the patient has complications following the height of the disease such as discharging ears, it is necessary to exercise more care in preventing the patient giving the disease to susceptible contacts. If the patient has inflamed or enlarged tonsils, nose trouble, or as said above ear complications, suppurating glands and so on, the infective

agent is harbored in the nose and throat secretions much longer, and therefore the patient is capable of spreading the infection for a longer time than where there are no complications. The attending physician is the only one capable of deciding such questions.

In this State the minimum quarantine period recommended by the State Board of Health a few years ago was six weeks. At that time it was thought by competent authorities that the skin which sometimes peeled from the patient from four to six weeks from the onset of the disease contained the infective agent; and that the "scaling" period was the most dangerous stage of the disease. Such a conclusion has been proved erroneous. It is now definitely known that the disease is spread almost exclusively in the secretion from the nose and throat, and is done by direct personal contact. As soon as the importance of the late roughness of the skin was discounted, the State Board

of Health recommended a minimum quarantine period of four weeks for average cases in which the attending physician and health officer thought safe to release at the end of such a period. In 1926 the Board, acting on the recommendation of an official of the United States Public Health Service, further reduced the minimum period to three weeks. So, a period of three weeks from the onset of the disease is now recommended in the rules and regulations under State Law. A longer period is advised when there is any complication or when in the opinion of the attending physician it is necessary. At the termination of the quarantine the plentiful use of soap and hot water energetically applied, with access of plenty of sunshine and fresh air to the room and its contents for several days is about all the fumigation necessary. All washable clothing or bedding should of course be boiled and laundered. All clothing and bedding not washable should be exposed outside to sunshine and wind for several days. It should

be hardly necessary to say that all secretions from the patient during the course of the disease should be carefully and properly disposed of by burning, or otherwise.

There is available for distribution through ordinary commercial channels or through the State Laboratory of Hygiene a scarlet fever antitoxin for both prophylactic and therapeutic use. The Director of the Laboratory says that he has frequent reports of rather severe reaction following the use of the preventive antitoxin. The antitoxin is said to produce fine results when used in suitable cases early in the course of the disease. One of the best known pediatricians in the State informed the writer a few days ago that he seldom uses the antitoxin as a preventive; but that he uses it promptly in treating a case should the temperature rise beyond a certain degree. He says the results are generally good. This doctor says that the antitoxin is of little benefit if used 'after complications have developed.

FAMILY INSPECTION OF CHILDREN AT BREAKFAST

Doctor Haven Emerson originated the idea of advising parents to practice the habit of carefully inspecting each child at breakfast. The intelligent parent will readily understand the importance of some such systematic habit of noting the condition of each child. The only trouble about a breakfast inspection ordinarily for the average family is that breakfast has degenerated into a relay race. Mother is called on to help George finish his bath, to fix James' tie, and to put the finishing touches to Mary's toilet. This all takes time on a short winter morning. School books are to be found, the cook fails to come in time, the gas is low or the wood is wet. Father comes flying into the dining room with his watch in one hand and the morning paper in the other. There are a thousand things to do and less than no time at all in which to do them if the children get to school in time, and father gets to the office along with the boss. In the country matters are worse, because there are so many more things to do, and the children have so much farther to travel

to get to school. It is true that the old time practice in some rural sections of getting the family up for breakfast before dawn in winter; and then all sitting around the fire after breakfast waiting for daylight may be in vogue yet. That habit however represented one extreme and the present day relay race the other. Neither would be suitable for the purpose of noting any physical danger sign in a child. The happy medium is a well-ordered routine practiced in the home in which there is system and order, and time for the attention to the more important things of life.

The careful parent can easily note if a child is easily tired, pale and colorless, lacks appetite, is listless and irritable, has dark circles under the eyes, and if old enough to voice a complaint, sometimes has headache. Such symptoms may mean many things, such as Brights disease which might quickly become serious and dangerous. Under such a systematic habit of inspecting each child daily, when a careful parent

begins to note such symptoms as the foregoing there will be no time lost in consulting with a good physician. The physician will make a very careful examination, including urinalysis, and this will be repeated several times at frequent intervals until the trouble is located and the child started well on the road to recovery. The child, and for that matter the adult, who comes to breakfast each morning with a smile, and as an evidence of good health, partakes of a good square meal, need not bother about the height and weight charts.

Parents should be especially watchful of their children following any acute disease no matter how mild or how seemingly trivial such attacks may appear. One of the chief dangers of such diseases as measles, scarlet fever, whooping cough, diphtheria and other diseases, are the complications sometimes following. Mastoiditis, a dangerous ear disease, frequently requiring a serious operation, often follows diphtheria. It may be several weeks after the child is apparently well before the

mastoiditis develops. Sometimes following an attack of septic sore throat, Nephritis or Bright's disease, may follow as a complication. This may happen two or three weeks or more after the throat symptoms have subsided. The first suspicion the parents may have that anything is wrong with the child may be the appearance of blood in the urine. It is always a serious complication and requires absolute rest in bed under the care of a good physician. The alert parent should be constantly on the lookout for beginning symptoms of contagious disease. He should watch for ear, eye, throat or teeth troubles. Finally the child's mental health and habits should receive very careful consideration. Any slight deviation from normal habits of thought and speech should be sufficient to demand most thorough attention. The growing child should be developing strength of character, and sympathetic treatment at the hands of the parents often means much in this important particular; and may be the means of preventing regrets later on in life.

A PATENT MEDICINE TESTIMONIAL

All of us know that the most effective advertising is through the personal testimonial route, especially where the testimonial is accompanied by the photograph of a fairly good looking young man or a pretty girl.

There is a certain patent medicine concern, located in another state, that has probably taken more good hard money out of North Carolina during the last ten or fifteen years than any other similar agency. This concern has sold its product by the car load in North Carolina. The pull in the stuff is that it has a very high alcoholic content and when a fellow takes one bottle he is just almost bound to have another right away, and so on. This particular concern has specialized in its advertising matter in at least one of the big morning daily papers of the State, and perhaps all of them, publishing a series of testimonials with pictures. A reader of this big morning daily just mentioned writes us from Cherokee County, North Carolina, attaching a clipping of

the advertisement in which the picture of a man, with a military cap on, is presented along with his peroration concerning the magic properties of this particular fake. In this case what shocked the reader in Cherokee County was the fact that in this particular instance the testimonial was from a man who advertised himself as having been assistant city health officer for ten years in the largest city of western North Carolina. The writer makes the statement to the effect: "What is the use! If health officers and assistant health officers and the employees of health departments, State, county, and city, which should know better than anybody else the fallacy of messing with such stuff, are not only addicted to the habit of consuming this stuff but are willing to put their pictures in the papers and advertise to the world their practice, how could the general public be expected to listen to statements of fact by responsible health department publications concerning such

rotten products?" In this particular instance, as in all others where such practices occur, the authorities would probably say with truth that the personal habits in the private life of their employees was a matter with which their employers had nothing to do. To a certain extent this is true, but in health

habits, as well as in moral character and in certain matters of financial responsibility, every health department should be above suspicion and require every one of its employees to at least measure up to the average intelligence expected of such people by the general public.

PIGS AND PRODIGALS

We are publishing below a letter from a trained nurse of extensive experience in which she discusses several pertinent questions either one of which would form the basis for a lengthy article. However we think the readers of the BULLETIN will agree with us on the point she most accentuates in her letter, and most likely to be remembered when the rest is forgotten, the reference to the fine food the pigs were getting when compared to the fare set before the family.

On reading the letter the writer is reminded of an old gentleman who lived in Sampson about three miles from Clinton when the writer was a boy, too many years ago to confess without reluctance. This old gentleman had accumulated quite a lot of money and property and had achieved considerable of a reputation along many lines of activity. He inherited a farm of considerable size, but as the years moved on he added more and more land to his original holdings. He had no other source of income except what he made on his farm. He reared a large family, educated them all, and at least two of his sons became widely known in North Carolina as capitalists before their death just a few years ago. This man produced everything on his farm that could be raised in that section. Before the railroad running to Clinton from Warsaw was built, about 1887, he hauled his early truck and produce across country to Warsaw and shipped to the northern markets, being a pioneer trucker and shipper. To this day, however, he is remembered on account of one expression attributed to him on more than one occasion. The expression was that he raised his stuff to sell and when he carried it to town and failed to sell it he took it back home and offered it to his hogs and if they refused

to eat it, in order to save the food stuff, he ate it himself. Of course, the old man did not mean this literally, notwithstanding the country folks around about took it literally, and the old-timers have all ever remembered it.

The point we wish to make, however, is that in that section, at a period when the chief occupation of most farm people was producing tar, pitch, and turpentine to be floated down the river and sold at Wilmington and the year's produce in white flour and molasses and white western bacon shipped from the Middlewest to New York and from there by ocean freight to Wilmington was purchased for the supplies for tenants in exchange for the tar, pitch, and turpentine, this old man made a business of raising a variety of truck and vegetables, hogs and cows and poultry, and got rich doing it. He gave all his children a fine start in life, all with a basis of sound health. He himself had good health, and died in his sleep at eighty years old.

Please read this trained nurse's letter and compare her observations with your own experience.

"I wish you would write something about the fallacy of fumigation and the efficacy of soap and water and sunshine and fresh air. Also whole wheat and Graham flour versus white flour.

"I heard Dr. Linney of Charlotte say two weeks before he died that it ought to be against the law to make and sell white flour. He was attending Dr. Crowson's funeral and stopped where I lived in Taylorsville. He was a specialist for rectal trouble. He was very much overweight and died from apoplexy. Everything one reads about diet for children and everybody else says to eat whole wheat or Graham, but very few do it especially the ones who can very easily get it, the ones who make it on the farm. The place I lived in one

county was in the country where they had a pig fattening on buttermilk and Graham flour and the cow ate the flour too. The family, just a couple, ate the white flour three times a day. When I noticed what the pig was getting, like the prodigal son, I asked for some of

the food the swine did eat. The pig ate cabbage leaves too. I have told it in chapel, much to the amusement of the school, several times when giving a health talk. We really are starving, when we do not get the kind of food we should have."

A PERILOUS AGE

Within recent months the whole country has been startled by newspaper reports of more than a dozen student suicides. The tragedies included both boys and girls, and both high school and college students. Some of them occurred in the North, some South, some East, and some West. Scientists especially interested in mental hygiene have been advancing varying opinions as to the cause of these deplorable events. Most of these students who summarily took their own lives were between the age of 15 and 19. All straight thinkers know the age from 14 to 20 as a perilous age. There is emotional instability. All adolescents of this age the least bit below normal in any respect are easily discouraged and their equilibrium upset by any one of a number of trivial things. The parents may not be sympathetic, or they may be tyrannical, and fault-finding and nagging. High-strung, sensitive children in the family may find themselves being compared unfavorably to their more or less phlegmatic brothers and sisters, much to the disparagement of the former. It is an unwise parent who will consciously do such a thing, but many of them do it. There may be one or more of a dozen physical defects which cause worry and brooding. There are even more mental deviations from the normal which are more serious. The parents may be sympathetic and want to do everything in their power to help along such children, but owing to diffidence or not knowing how to go about it, both suffer. More often the trouble is in school. The teacher may be grouchy or lazy, or a fault finder. Such students often get off on the wrong foot with their fellow pupils in school. A sensitive student who is shy and reticent cannot be expected to get along in a big school with a hundred or a thousand classmates all expected to look and act as much alike as an

equal number of white leghorn chickens. Such a pupil should be in a small school with only a comparatively few pupils and a wise teacher. A musical or artistic pupil, or a dreamer, is out of place in a business college. At this age of early adolescence the world has a thousand problems and a million interests all clamoring for attention. The correct and satisfactory answers to innumerable questions these boys and girls want to know about are hard to find. The imagination is often running riot. There are vague but grave fears. Trashy and obscene literature often play a part in helping throw out of balance an already disturbed mind. An evil and vulgar acquaintance frequently does irreparable damage. In our modern complex civilization there must be a better understanding of the child in the home first and in the school, if we are to steer our children around disaster. The elements of anxiety and fear must be minimized and the positive side of character must be emphasized. The child should be encouraged in every way to develop and bring out his own latent possibilities. One of the first things of prime importance to do for these hundreds of thousands of children all over the land is to banish from among us the more radical eugenists, who are constantly proclaiming that "positive disabilities and temperament are inherited and, therefore, inescapable." A mistaken theory in the opinion of Dr. John B. Watson, one of America's most noted psychologists. Such a theory is certainly discouraging, and most of us will agree with Dr. Watson, who goes on to say in an interview recently published in the *New York Times*: "Until science teaches us the way to live, and forever removes the adolescent and infantile temptation to suicide, there is a way out for the youth in a jam if he only had the courage to try it. It may not be a

scientific way out and it may seem to many not to be a very courageous way out. He commits suicide because his present environment has become intolerable. Nothing around him stimulates him to learn to conquer his universe. Why not, then, escape from this environment in another way? Why not be good enough sport to admit that you are licked in this particular spot and say that you believe you have got the courage to carry your fight to some more distant spot and win. Formerly boys ran away from intolerable environments to become pirates, cowboys, miners. These picturesque days are gone, but every village and hamlet in the world offers an escape to the tor-

tured youth, a way of getting out of a jam by starting over again under a new name and under new conditions and even for learning a new language. And not only an escape from his environment but from himself (his internal environment).

"As soon as he escapes and has to get busy earning a living (nobody ever uses hunger or thirst for committing suicide) he loses himself in outside activity; the question 'Is life worth living?' no longer presents itself as a problem. If it perchance arises in a ghost-like way, he says, 'Why worry? I am living it anyway. I am going to be dead a long time; I guess I will see it through.'"

HEALTH AND DELINQUENCY

By THOMAS D. WOOD, M.D.

Professor of Health Education, Columbia University

(An Address Before the North Carolina Conference for Social Service, Raleigh.)

I should like to call attention away from this (I fear) too generous introduction and to the fact that I am sure now that every cloud has a silver lining, because in this first day that I have had the pleasure of stopping in your State I have found already so much cheer and geniality in the people of Raleigh and North Carolina that I know no weather could really becloud or dampen the spirit of this State. It is a great pleasure for me to be here.

The Governor of New York State said in an address before the Child Welfare Committee of America in New York City, on February fifth of this year: "The great body of the American people are indifferent to the condition of others." He continued, "I do not think we should blame them very much for that; they have not the knowledge of what is going on. As long as they are lulled into a certain sense of satisfaction that they are doing everything that should be done, how can you blame them for their sense of ease?"

I am sure the suggestion to you will be clear from that as to what one of the great problems of the social worker is; and that is to disturb that inertia,

that complacency, that sense of ease, which the responsible, socially minded citizen (or citizen capable of becoming socially minded) should be robbed of as rapidly as possible.

I am interested to discuss with you the relation of health to delinquency, partly and fundamentally because I assume that that is of particular interest to the members of this professional group. It seems desirable that we should have an understanding and, if possible, some agreement, with reference to the scope of health. "Health is an abundance, a soundness, a worthiness of life; abundance having to do with the biologic foundation, soundness with the mental abilities and characteristics, and worthiness with the social and moral aspects and relationships of life. May I ask you to consider all of these as belonging to a composite but a unified problem? Because, as Dr. Wiles said in an address given a few months ago, we must consider the whole child as a health unit. Your own Dr. W. S. Rankin, eminent health authority of North Carolina and of the United States, has contributed the following very significant explanation of the

value of health, in these words: "First, because health largely determines the factors of interest and endurance; second, interest and endurance largely determines efficiency; third, efficiency during youth in studies and games, and in maturity in the more serious tasks of life largely determine happiness; fourth, happiness largely determines disposition and attitude." This very significant description of health is particularly appropriate to our subject today. I am glad to quote further from the Health Education Report of the Joint Committee on Health Problems in Education of the National Educational Association and the American Medical Association. The quotation I gave you from Dr. Rankin was taken from that same report; and he was one of the valued advisory committee of twenty-seven technical experts that helped, through generous contribution, to prepare that report. I quote again: "The ideal of health is not mere freedom from obvious deformities and pathological symptoms; it is a realization of the highest physical, mental, and spiritual possibilities of the individual being."

The task of the social worker is not exclusively with social disorder, for the failure of mental adjustment is rarely the only problem in cases of mental disease. Dr. Margaret Wooster Curti said in the *Scientific Monthly* some months ago that "Lombroso's theory of a criminal class distinguished by definite physical stigmata is no longer held by scientists. It has supplanted by an equally simple and not dissimilar theory that a large percentage of deficiency is due to inborn mental weakness, measurable by psychological tests. The social workers are sincere, the judges fairminded, the average educated person intelligent; but all are misinformed. Psychologists have been overhasty and prone to apply prematurely the findings of a science yet in its infancy. However, we have scientific proof that the earlier and still prevalent estimates were greatly exaggerated and there are clear indications that the whole percentage of feeble-mindedness in the criminal group may be only slightly greater, possibly no greater, than in the population as a whole." Dr. Burt says

that mental defect cannot be regarded as the primary cause either of delinquency or crime; "That its effect is negative rather than positive and that the deficiency itself merely removes some of the usual checks which, based on prudence and rational insight, keep a more normal mind from giving way to antisocial promptings." In addition to the mental test, he applies also a technic by which he gets the child's own story and the results of the child's introspections.

Stealing may be caused by a variety of original desires. Next to theft, truancy is the commonest of offenses. The herd instinct comes in for its share in juvenile crime, particularly in boys. Much juvenile misconduct appears as a forcible mode of self-expression, cruelty often being directly due to the self-assertive instinct. The psychiatrists tell us that in many of these cases of youthful over-assertiveness the individuals are using the protective and defense mechanisms often to justify themselves or to try to justify themselves to their fellows, as a mask for a fundamental and disturbing sense of inferiority. In well over one-third of the cases but in rather less than one-half Burt finds some deep constitutional failing to be the primary cause or source of misconduct; nevertheless, in the total group he finds the part played by heredity a less important cause. The three most important causes were found to be defective discipline, specific instincts, and general emotional instability. Next come mental dullness, not enough to be called defect, and the next the family life and friendships formed outside the home.

Juvenile defendants possessing both physical and mental complaints are of course often referred to the mental clinics. Although it is often necessary for the psychiatric social worker to handle the case as a worker, she must have the cooperation of the hospital social service worker. The person responsible for the treatment of delinquents should never be content to deal with such a case except with full knowledge of the facts relating to the physical, mental, and environmental status of the case.

In glancing over the reports of the probation officers it is noted that parents are very likely to attribute the failings of their offspring to some previous accident or illness, which shows that even the lay mind is looking for a physical cause of mental misconduct. Many offenses some years ago were attributed to pressure on the brain, then to tonsils and adenoids; but today it is realized that it is a composite picture. Occasionally the investigator finds that removal of the physical defect leads to some improvement, but that its removal will not effect a cure. This, I think, is very true and very significant, so if I should stop to generalize I should say that perhaps never is there a single cause of delinquency. Eisler said: "In the field of mental medicine much has been said recently about the biologic unit of the organism and the need for approach to mental reactions from various angles. This has led to research from the many physical and psychical sources. The principal fallacy in the logic of most of the reports lies in trying to make the whole process direct. There is a very definite relationship between energy distributed through the sensori-motor level and the psychological forms of expression, but this relationship is of a very complex and subtle nature."

It should always be remembered that physical defects or diseases or anything of that nature standing in the way of social success should be treated as effectively as possible, but that offers no one single measure of relief the chance of any considerable amount of total reconstruction in the crime situation.

Physical conditions concerned at all with the causation of delinquent tendencies may readily be divided into those which cause weakness and those which cause irritation. Localized ailments and defects may so react upon the whole organism as to create a condition favorable to delinquency. These bodily states do not directly cause delinquency, but may so undermine the health as to seriously interfere with the development of good characters. The child's chance to overcome tendencies to delinquency is greatly hindered by such a state. O'Shea refers to the newspaper quip about Johnny's coming before the

judge for throwing stones at windows and being sentenced to have his tonsils and adenoids removed; but, again, the youngster of good physique and sound constitution seldom reappears before the court in after years. On the other hand, most confirmed offenders are infirm. Burt asserts that 70 per cent of offenders were subject to bodily weakness and ill health, and 50 per cent were in urgent need of medical treatment. It has been observed that physical defects are about 25 per cent more frequent in delinquents than in non-delinquents. The findings are far from uniform, and only as we have the statistics from controlled groups as compared with statistics from test groups can they have any value.

We have known for a great many years that among the school children of this country 75 per cent of them had bodily physical defects which were or are, actually or potentially, detrimental to health, normal status, general growth, and efficiency.

However, poor health means, in general, poor control; and even a temporary physical weakness may be the occasion of a passing animal lapse. When health deserts us, courage is diminished, laziness increases. Some delinquents become such through a temporary weakening due to an attack of sickness; and lingering illness may have a more lasting effect than temporary weakness. We are all familiar with the problem of the delicate child. A child who is delicate and pampered at home fails to form habits of vigor and self-denial and is prone to fall back upon subterfuge to gain his ends. I was told yesterday by the father of a boy of five that he had told a beautifully constructed falsehood in order to protect himself after a disagreement with his older brother. We cannot take these fabrications in little children, of course, as seriously as in older children.

After examination it is often found that some one condition stands as most prominent and most influential. From surveys Dr. Burt made in England he states that physical defects have only half the value of the psychological and environmental. He states further that physical defects appear more frequently in girls than in boys. He says the

principal effect is on the mind, of the physical defect. Anything which heightens irritability also heightens liability to antisocial outbreaks. Defects of speech and hearing and poor and undersized body are more common among boys; on the other hand, conditions touching the emotional life, chorea, hyperthyroidism, excessive or premature sexual development; states, on the whole somewhat exceptional in their nature are noted more frequently among delinquent girls.

Dr. Helen Montague, of the Children's Court Clinic in New York, makes the following statements: (1) The physical condition of the delinquent group is inferior to that of the normal public school child. (2) The delinquent group suffers mainly from nutritional and glandular defects. (3) The physical condition of the child is a strong contribution to delinquency. (4) Successful treatment of delinquency must include the elimination of all physical defects.

Certain diseases are thought to be connected specifically with tendency to crime; these are such as epilepsy, chorea, and encephalitis. Healey says that a study made by him shows that 7 per cent in one thousand delinquent children were epileptics. Encephalitis is affecting a considerable number of adults, but more children, in the United States. Recent investigations claim that this disease causes inflammation in certain parts of the central nervous system, especially the base of the brain, which has a great deal to do with controlling the tonic and coördination of the muscles. Dr. Cole states: "The sequela most noticed in children are various respiratory disorders; irregular movements with marked restlessness; behaviour activities of sudden and unaccountable forms, tremors, and some cases slowing of speech and muscle movements. After this disease there are often emotional outbreaks. Parents must be made to realize that this is a disease condition. The child is unable to stand the least worry, becomes emotional, irritable, restless, and may develop strong criminal tendencies.

Dr. Carter, of Los Angeles, says of children examined by him in 1924, 36 per cent were undernourished. Dr.

Montague, of New York, says in 743 children 31 per cent showed defects of nutrition. Edwin Eisler states that among one hundred cases in the Minneapolis Child Guidance Clinic 16 per cent demonstrated visual disturbances.

Visual defects are much higher among delinquents. Defects of hearing are not of so much importance as formerly thought. Healey says that occluded nostrils, adenoids and enlarged throats may readily be sources of physical weakness and general malaise. The study of speech defects has showed that the tendency to stuttering makes the individual highly antisocial; he finds discomfort in society and often forms miserably inferior association. Speech defects lead to emotional disturbance and discouragement may lead to psychoses and marked suicidal tendencies. Deaf-mutism might easily lead to recalcitrancy. In a moderate number of cases of course delinquent conduct is originated of sex defects. Occasionally one finds a case where some one condition or experience seems to account for the whole unfortunate tendency. The following table is of interest. The table is Dr. Healey's.

	Male	Female
Very poor physical development	26	0
Delayed puberty plus poor development	7	0
General physical overdevelopment	6	0
Overdevelopment of general physiological sex characteristics	0	17
Premature puberty, general physical overdevelopment	9	19
Premature puberty, poor physical development	4	0

General physiological overdevelopment—excess of physical vigor—is justly considered, in rare cases, as a direct cause of delinquency; and I express my agreement with this opinion. There are some individuals misplaced in an environment which does not call forth all their powers, whose very superabundance of vitality makes for criminal characteristics. The son of my good friend, a boy of five who had not had enough activity, walked over and punched his nine-year-old brother in the general region of the stomach. The brother asked the reason, then the father asked why he did it. He did not know why, and he fabricated a reason; he sought an alibi. He had not com-

mitted a crime but as a small child he had committed an antisocial act.

The period of convalescence from a disease is always very trying and may result in permanent enfeeblement of the character. Unable to take part in games, the convalescent child grows dreamy and eccentric. Again to refer to the problem of the delicate child. The previous illness may be a starting point for antisocial behavior.

Other obvious physical defects which contribute largely to delinquency are facial birthmark, hare-lip, club-foot, postmeningial palsies, and supernumerary fingers.

Not every physical peculiarity which contributes to delinquency is a defect; small hands and tiny fingers are a convenience to the pickpocket; spinal deformities may win sympathy for the beggar from the passerby.

Now we return to the mental side, because it seems to me this must receive a great deal of attention. Quotation here is from an editorial which appeared last week in the *Journal* of the American Medical Association:

"The sources of delinquency are not in psychiatry itself, and if psychiatry is to be preventive it must penetrate those fields that are a part of the normal life of every person. If psychiatry, as is evident, is not a self-sufficient science, the efforts should be redoubled to prevent personality and behavior difficulties before the human misfits are created. The home, the schools, the churches, the industries and other agencies that seriously affect human behavior now demand consideration as never before. This should be an era of well conceived social agencies, of intelligently directed social workers, of properly motivated public interest—all concerned with a common problem. Even an enlightened psychiatry cannot progress rapidly against 'the whole current of a society organized along un-psychiatric lines.'"

Certain broad conclusions, as laid down by Burt seem worth while here. Certainly all young persons who show delinquent tendencies should be dealt with at the earliest possible stage. The delinquent must be approached individually, as a unique human being with peculiar constitution and peculiar problems. The remedies should be adapted

not so much to the nature of the offense but to the nature of the factors producing it. Fuller knowledge is needed of the causes of delinquency.

My final word is that the prevention of delinquency, as well as other vital problems in society, is bound up with this whole problem of child health and child health education. I wish to pay my tribute to the effort made by the National Congress of Parent-Teacher Associations and the United States Bureau of Education in launching that campaign for the improvement of the health of, and the prevention of defects in, preschool children. I like their slogan—their purpose was to help the homes get the children in a healthy condition, so when old enough to go to school they could go as children ready to learn and not as bundles of parental neglect. My other point is that this program of health education, which is intended to promote health in the children in the homes, the children in the schools, the children and youth in industry; this program must recognize all the elements in health—physical, mental, emotional, social, and the character elements. The program must be broadened, and there must be more soldiers in this army of interested and devoted adults, an army which is needed to make any real progress in this program, and they must be trained very broadly and thoroughly in order to grapple with this program. I quite agree with my good friend Dr. McBrayer when he says that the children of North Carolina are the most important resource in the State. I hope you know the children of North Carolina, their potentialities, their needs, their natures, for I am sure that you and all other citizens of the State feel that, more than any other value, they ought to be conserved and helped to develop their best for North Carolina.

SOMETIMES IT WORKS

Mrs. Hicks: I don't take any stock in these faith cures brought about by the laying on of hands.

Mrs. Wicks: Well, I do; I cured my little boy of the cigarette habit that way.—*Medical Pickwick*.

PENALIZING CHILDREN FOR BENEFIT OF DOGS

As these lines are being written the State Laboratory of Hygiene is receiving numerous requests from nearly every section of North Carolina for the Pasteur treatment to administer to persons who have been bitten by rabid dogs.

The question of how long the people of North Carolina are going to continue penalizing their million children for the benefit of a few thousand, mostly worthless, dogs is one that intelligent people are constantly asking themselves. No season of the year and no place in North Carolina out in the open is safe from a sudden attack by a rabid dog. The method of control usually followed, which produces no permanent results and conduces very little to safety, is for people to get in a panic on the report of the presence of a mad dog in a community, then they one and all rise up and murder every dog in sight, most of which is a useless procedure. Chil-

dren are penalized by keeping them in the house or closely confined when they should be outdoors in the open air and sunshine.

In another part of this issue we are publishing a very interesting article by Dr. C. A. Shore, director of the State Laboratory of Hygiene. The article contains a great deal of information and discusses concisely and pointedly methods for intelligent control of this menace which have been successful in other countries and could very easily be put into effect in this country, which would once and for all end this menace to the population. Be sure to look up the article, the title of which is "Rabies," and read it through. Dr. Shore attaches to the article specific figures giving the number of animals examined at the State Laboratory of Hygiene since 1908, year by year, and also the number of patients treated.

RABIES

By C. A. SHORE, M.D.

Director N. C. State Laboratory of Hygiene

(Paper read before a public meeting at Fayetteville on the occasion of the Tri-State Medical Society meeting.)

My subject is chosen not because the disease of rabies is one of our greatest problems, nor because I have new facts to present, but because it is the one disease which, at the present time could actually be exterminated if we would but apply the knowledge we possess. We know the germ which causes it, we know the way in which it is conveyed from animal to animal or from animal to man, we know the behavior of the germ in the body and the explanation of the peculiar symptoms, we know how to give protection, and above all we know how it may be eradicated.

Rabies is one of the oldest of recognized diseases: its peculiar symptoms and the inevitable fatal outcome have always made a powerful impression on the human imagination. Medical literature on the subject extends well beyond the Christian Era and in general liter-

ture there are many references in ancient writings. There is an excellent description written by Apuleius in the second century in his *Metamorphosis*, and there are said to be references in Horace, Virgil, Ovid, and Plutarch. This ancient history is exceptional, for the great scourges of the human race, like tuberculosis, bubonic plague, and influenza, if mentioned at all, can be recognized only with difficulty.

During the hundreds of years in which rabies was recognized as a separate entity, a great mass of superstition had collected around it and remnants of this ignorance still remain in the popular mind. We all know persons who believe that a dog's bite is dangerous only in that season of the year when Sirius, the Dog Star, is in the ascendancy. I have not seen a "mad-stone" in several years, but formerly I have been

permitted to examine fragments of pumice stone several pebbles and one bit of pottery from a broken domestic vessel all of which were treasured for their curative powers. One ancient therapeutic belief alone stands the test of modern experimental proof; that is the value of cauterization. It was the ancient custom to apply a red hot iron to the fresh wound and many persons were saved thereby. If done early this is still good practice although nitric acid is substituted for the red hot metal.

In common with most other diseases accurate scientific knowledge begins with the time of Pasteur. Pasteur never succeeded in finding the infecting agent—this was reserved for Negri—but he did begin the scientific study of the disease and found an efficient prophylaxis which saves about ninety-nine per cent of exposed persons. Briefly, this is a vaccine made from the spinal cords of rabbits which have been infected with a very rapid form of the disease. The cords are attenuated by drying and by passage through many generations of rabbits. The history of the trial of his vaccine, by Pasteur, forms one of the most dramatic chapters in the history of medicine. The vaccine is still used with only slight modifications. In North Carolina we use the original Pasteur strain of virus and the chief modification is a somewhat larger number of injections.

The germ of rabies discovered by Negri, is generally believed to be a protozoan. The examination of a rabid animal can be made rapidly by staining a smear-preparation of a small portion of brain tissue and the round or oval organism shows plainly and distinctly in the nerve cells. A brain which contains these organisms will invariably reproduce the disease if a portion of it is injected into another animal. On entering the body, the germ causes no inflammation and so far as we know it is not carried by the blood stream, but it does find a small nerve fibre and travels through the body in nerve tissue. It apparently at once begins to multiply in this tissue but causes no symptoms until it reaches the brain where it enters and destroys the nerve cells. It may have taken weeks or

months to reach the brain, but once entrenched there the final course is extraordinarily rapid and the fatal outcome invariable. The symptoms of madness and paralysis, so apparently variable and inexplicable to the unenlightened mind, have the simple explanation that they depend upon the destruction of nerve cells.

The infection not only goes to the brain but also to certain secretory glands, notably the salivary glands, and the infection is excreted in the saliva. It is by means of the inoculation with infectious saliva, that is by biting, that the disease is spread from animal to animal or from animal to man. All mammals, including man, are susceptible.

The dog is no more susceptible than is the sheep, or the cow, or man, but the dog and his relatives the fox and the wolf, when their brains are diseased commonly exhibit the instinct for biting. The cat only occasionally shows this symptom as does the horse. The rabid cow may be just as belligerent as the dog, but her instinct is to hook or butt, rather than to bite. Other animals exhibit varying symptoms of a diseased brain, but it is seldom that they want to bite.

The problem of the spread of rabies is therefore almost wholly confined to the dog and it is just this animal which has easiest access to human beings. If we could prevent rabid dogs from biting other dogs and other animals we could eradicate the disease.

The statement just made is not based on theory alone. Rabies has actually been exterminated in Denmark, Norway and Sweden for thirty years. Before the war it was unknown in Germany except along the borders, and in England there was no rabies for over twenty years until it was reintroduced by returning soldiers who brought back infected dogs from France. It has now again been eradicated in England. In Australia there has never been a case of rabies, for that continent has always had a quarantine law for dogs and each animal is confined at the port of entry for six months before it can be delivered to the owner.

The contrast of these countries with the United States is not to our credit.

Here only sporadic and ineffectual attempts at control have ever been made, and for the last decade the disease has been on the increase in the greater part of our country. This is especially true for our own section. The states with the worst records are North Carolina, South Carolina, Georgia, Florida, Alabama and Mississippi. Virginia's record is considerably better than that of North Carolina and South Carolina and Georgia's is a trifle worse.

The increase in North Carolina may be illustrated by a comparison of the record of 1909 (the first year of complete statistics) with that of 1925. In 1909 there were 83 rabid animals examined at the State Laboratory of Hygiene, in 1925, 813. In 1909, 157 persons were treated for bites of rabid animals, in 1925, 1850. The intervening years show an increase with almost regularity.

Last year we had four, possibly five, human deaths from rabies in North Carolina. This number is insignificant if compared with the deaths from tuberculosis, but if it is true that each should have, and could have, been prevented, they are not to the credit of our civilization. We must also charge against this disease an enormous loss of cattle, hogs, sheep and horses, but no accurate statistics are kept of these deaths.

In the far West, rabies has been comparatively rare until within the last few years. In a stock raising country, the predatory dog is never shown much mercy, but with the decline of stock-raising on the unlimited range, dogs have increased. In the Rocky Mountain section the disease is now said to be prevalent among the wild coyotes, and rabies will probably exist in that region until these wild animals are exterminated.

We have seen that certain European countries have been freed from rabies and we find that this was accomplished in each case by preventing the dog from running at large. This is a very simple procedure theoretically, but we must admit that it would be difficult of application in our own states. Sooner or later, however, we must come to it, and since the problem is rather one of education and legislation than of medicine, it is important that information should

be broadcasted in every justifiable way. The public must be informed as well as the medical profession.

The extermination of rabies does not mean the extermination of the dog. There is no country on earth where the dog is held in so high esteem as in England, and no other country where the pack of hounds is such an institution. In that country the restriction of dogs is just as popular as a means of protection for the dogs themselves as it is for the protection of farm animals and for man.

In the South the dog lover constitutes a large percentage of our population, but too often he resents the truth that rabies is primarily and solely a problem of the dog. With more complete knowledge the owner of a valuable dog would be the first to advocate complete protection. Up to this time, however, the dog owner, and stock raiser, have shown little interest, in North Carolina at least, in the only known effectual method of controlling rabies. On the other hand they appear eager to try the half-effective method of dog vaccination.

The only country which has tried this seriously is Japan, and the first reports, before practical application was attempted were certainly encouraging. In this country no such uniformly successful results have been secured as were first reported in Japan. If it were possible to give all dogs a full series of injections by the Pasteur method we could undoubtedly protect them all, but this is manifestly impossible. The methods in practical use attempt to give a concentrated dose in from one to three injections. There are many failures by this method and we see many of them at the State Laboratory of Hygiene. Further than this the vaccine occasionally actually causes the disease itself. This is not surprising when we remember that the antirabic vaccine is not a dead vaccine but that it contains the living germ attenuated by drying and by passage through rabbits.

On the whole the widespread vaccination of dogs would, in my belief, reduce the incidence of rabies, although an occasional case produced by the vaccine itself must be expected, but my point is that we have a more effectual and an almost ideal method of accom-

plishing something which is the hope of every man interested in the public health. That is the actual extermination of a fatal disease.

So far as my knowledge goes there is only one disease which has ever been wiped off the face of the earth, and that disease was one which was not known to attack man. It was a certain infectious pneumonia of cattle which was prevalent in Texas some thirty years ago. Theobald Smith, then in the government service, found the cause of the infection and succeeded in actually stamping it out. We believe that, today, that particular disease germ is as extinct as the dodo.

We now have another such an opportunity in rabies. It might take many decades to exterminate it in Russia and in China, but even there it is not hopeless, and in our own country it could be done in five years.

One state alone could not do it, and my talk is therefore, appropriate for a meeting of neighborly states, but so far as I am concerned, I would like to see my own State make the beginning.

ANIMALS EXAMINED AND PATIENTS TREATED

		Positive	Negative	Total	Patients Treated
1908	(5 mos.)	20	13	33	42
1909		83	24	107	157
1910		73	93	166	159
1911		87	54	141	151
1912		151	126	277	224
1913		179	145	324	297
1914		169	195	364	191
1915		136	157	293	181
1916		155	212	367	250
1917		296	264	560	362
1918		237	216	453	459
1919		229	191	420	517
1920		207	206	413	473
1921		323	224	547	643
1922		381	540	921	855
1923		596	557	1,153	1,108
1924		638	666	1,304	1,288
1925		813	895	1,708	1,850
1926		638	927	1,565	1,790
TOTAL		5,411	5,705	11,116	10,997

THE HIGH COST OF SICKNESS

Dr. C. C. Burlingame, in addressing a recent convention, made a striking and timely plea for the wider application of business methods to hospital operation and for the enforcement of those economies without which the high cost of sickness will never be reduced.

No other country had raised hospital construction to the high level it has attained in America. Our institutional buildings are characterized by beauty, cheerfulness, convenience, healthfulness and an extraordinary suitability, in gross and in detail, for the purpose for which they were erected. Highly skilled experts supervise the smallest minutiae of plan and equipment, and devise meritorious improvements almost daily. Able and enthusiastic men and women staff most of these institutions, and as a net result they serve certain groups with a perfection which fifteen or twenty years ago would have seemed incredible.

Extremes meet in the personnel of the group that gets the completest service, for among these happy patients are both the very rich and the very poor. The wealthy enjoy every diagnostic, medical, surgical and therapeutic advantage the institution can muster because they are able to pay for it what-

ever be its cost. The indigent command the skill of crack surgeons and specialists and receive very much the same sort of treatment for nothing, or next to nothing, because no hospital worthy of the name is content to give a patient anything less than its best.

A large percentage of hospital inmates lack these advantages, for it is they who are the great financial middle class, composed of self-respecting persons who are too proud to accept free service and too poor to be able to afford costly private rooms, highly paid surgeons and the expensive laboratory studies which have done so much to take the guesswork out of modern medicine and surgery. They flock to the cheapest rooms, employ the best professional service they can pay for, deny themselves all but the most essential attention, and finally leave the institution with depleted savings, after having received less for their money than the free patient got for nothing. In other words, they are penalized for their self-respect and for their determination to pay their own way.

Common observation goes to confirm the truth of the picture Doctor Burlingame has drawn; but conclusive proof of its correctness is to be found in the

earnest efforts of progressive boards of managers to better the conditions he has pointed out, and to bring all hospital facilities within the reach of persons of moderate means. The first step in this direction is wise employment of funds and entire elimination of waste. These imply the universal adoption of scientific accounting methods, accurate cost-keeping systems, standardization of supplies, conservation of material, skillful purchasing, and that eternal vigilance without which real economy never thrives.

Even the best managed hospitals show an operating deficit. This must be wiped out by income from endowment, State or municipal aid, appropriations from local welfare organizations or private contributions. Well-managed hospitals should be regarded not as

charities but as quasi-public utilities, and as such they should be able to command the loyal support of all who are within their sphere of service; for the more they can count on the public, the more the public can count on them.

The problem of cheaper hospital facilities is everywhere being agitated, and it can and will be solved as soon as the business men of the country and their powerful organizations attack it in force and apply to it methods similar to those which have brought efficiency and economy into their own successful enterprises. There is no field of humane endeavor in which business leaders can produce more beneficent results, if they will enter it in a big way and give their best thought to its peculiar needs.—*The Saturday Evening Post*.

SHIPPING MILK LONG DISTANCES

A recent advertisement in the *American Journal of Public Health* proclaimed the fact that six thousand gallons of milk are shipped daily from Marshfield, Wisconsin, to Miami, Florida, a distance of one thousand six hundred and seventy-eight miles. The advertisement went on to specify that the milk is shipped in a special tank car and arrives at the end of the journey in perfect condition. In our January issue of the BULLETIN we called attention to the fact that milk is shipped into North Carolina from as far away as West Virginia, and that North Carolina dairymen ship milk also to Florida. We might add to the statement made in that issue that milk is shipped into North Carolina, not only from as far away as West Virginia, but some from Kentucky and from Tennessee, as well as from the state of Virginia. Such marketing of milk as this would have been impossible and unthinkable so recent as ten years ago. The reason it is possible now is because of the more recent practical application of sanitary science to the production of dairy products. The production of milk and the restrictions that are placed about dairymen who compete in the commercial field are about as perfect now in order to insure a safe product from a communicable disease

standpoint as it is possible to apply. There are hundreds of items in detail which go to make the long distance shipping of milk safe; but the most of all of it is founded on the solid facts demonstrated and proved in the field of sanitary science. The possibilities in this field are unlimited for business development for the combined agriculture and dairy interests of North Carolina. The climate and soil capacity of this State is such that the dairy interest could soon rival the textile interest in commercial importance for the people of North Carolina. It is hardly possible to estimate at present the amount of money that would be kept in the State and that could be received into the State from states farther south through the increased efforts in this field.

It seems to us something more than a coincidence that on the very mail through which this advertisement of the Wisconsin-Florida milk shipping business came to our attention we received a newspaper report of an interview, issued by Mr. Roger Babson from Florida, specifying as one of the chief needs of Florida at present to be expansion of the dairy business. What is true for Florida is just as necessary for the people of North Carolina to consider

in this respect. Naturally the primary interest of the State Board of Health in this matter is from the standpoint of safety of the public milk supply and of urging on all occasions an increased consumption of milk and dairy products by every family in the State. The State Board of Health feels that

it is primarily responsible for pioneering and leadership in the achievement of safe milk through its educational efforts and its recommendations to the cities and towns and producing agencies requiring effective ordinances guaranteeing the production of a safe and clean milk supply.

CHRONIC MUSCLE AND JOINT TROUBLES

Recent investigations in the United States, and in England especially, tend to confirm the accuracy of the conclusions as to the primary cause of most cases of chronic arthritis; that is, joint trouble and muscular troubles commonly known as muscular "rheumatism." These investigations, carried on with reference to great numbers of people suffering from these conditions, establish the fact that most of the trouble is caused by a local foci of infection somewhere in the body. Possibly two-thirds of all such ailments come from infections in the head, such as diseased teeth, infected tonsils, sinus trouble, and infections about the nose. Chronic appendicitis is a not infrequent cause. Most of the rest of such troubles have a genito-urinary origin.

Naturally the important thing for people to do to prevent these troubles is to keep their teeth in as near perfect condition as possible, and to have teeth which are decayed beyond com-

plete repair, including the roots, extracted. Frequently removal of diseased tonsils, which should be done only on the advice of the attending physician and the throat specialist, serves to clear up the trouble. The same thing applies to other throat or nose infections. It is a very essential thing to control the spread of venereal diseases, because frequently infection from this source causes serious joint trouble especially. The prevention of infection from these diseases is many times more important than to attempt a cure after they are established, from a public health standpoint. Nevertheless it is very important to have continued scientific treatment by capable physicians throughout a sufficient length of time to thoroughly arrest such diseases when once contracted. Venereal diseases when treated properly from the beginning are not so likely to result in joint complications, as when neglected or improperly treated.

STATE STILL HOLDS PASSION FOR ITS RATION OF TYPHOID

It is a discouragement to the hope of general intelligence that in the year 1926 there should have occurred over a thousand cases of typhoid fever in spite of everything that the Board of Health has done by precept and example, by campaigns and clinics, by county health work and public appeal for more than a full decade, in the way of its control.

Typhoid is a disease which with even a little precaution could be as definitely eradicated in the United States as yellow fever has been banished from the Canal Zone. There is very little that is not known concerning it. It is perfectly clear that the bacillus is carried in water and it is entirely easy to safeguard the water one drinks. In addition, there is an

effective preventive which anyone can have for the asking. Whoever doesn't know about typhoid, how it is caused, how it may be avoided, is deaf, dumb and blind.

Yet there have been a thousand and more cases in the State this year.

The disease is on the increase, and it is still going strong in many counties.

Every case means a sporting chance to secure a free passage over the Styx, weeks of severe suffering, expense and discomfort and the strong probability of permanent enfeeblement in the way of after-effects. The money costs mount up appallingly. In dollars alone the loss from this year's cases must total a million.

Typhoid, as a result of the long war waged against it, is far less prevalent than it used to be before it was so well understood, but, apparently, it still is popular in many sections.

Why? Who knows! But a com-

munity that will turn out a posse to hunt a "mad dog" will stick to its typhoid germs as one of those things the old inhabitants are fond of referring to as "inalienable rights!"—*Raleigh Times*.

WHAT SOME PEOPLE WANT TO KNOW

IODINE

EDITOR THE HEALTH BULLETIN:—Will you please publish a list of the more common foods containing iodine?

Answer—The foods that are comparatively rich in iodine may be listed under three heads: fish, fruits, and starchy vegetables. Fish includes any kind of salt water fish except trout, which is said to have little iodine content. But herring is especially rich in iodine; so is fresh salmon. Of the other varieties of sea food gray shrimp, crab, lobster, and oysters, and especially the shrimp, are rich in iodine content. Of fruits, bananas and strawberries may be mentioned as good examples that have considerable iodine. Vegetables that are rich in iodine include green peas, asparagus, white cabbage, green beans, and tomatoes.

OVER-WEIGHT IN CHILDREN

EDITOR THE HEALTH BULLETIN:—Please allow me to ask you some questions concerning the health of some children. Is it necessary for a child eleven years old to sleep eleven hours every night? Is six pounds too much to be over-weight? How can any one reduce it? What is it necessary to eat for breakfast, dinner, and supper to keep normal weight? Is it better to

brush your teeth every night after supper, or in the morning before breakfast?

Answer—It is better for all children under twelve years old to sleep at least eleven hours every night. The minimum certainly should not be less than ten hours.

Six pounds too much so-called over-weight is all right, and we would certainly advise against attempting anything to reduce such over-weight. Over-weight in children that are otherwise healthy will always be taken care of naturally and in due time will become adjusted as the child grows older. The one thing we advise toward controlling such over-weight would be to see that the child does not eat much candy or other sweet foods.

A reasonable quantity in moderation of any average family menu for breakfast, dinner, or supper—a menu comprising a balanced diet such as may be found in the average intelligent person's home—is sufficient so far as diet is concerned toward keeping the weight normal. Excessive eating, of course, should be barred.

It is better to brush one's teeth after supper and on arising in the morning; but if it is not convenient to do both, it is probably better to thoroughly clean the mouth and teeth before going to bed at night.

TERMINAL FACILITIES

The professors of preventive medicine in all the colleges who are modern enough to have them, the statisticians, and health officers nearly everywhere have been busy for the last few years explaining that the results produced in recent years by the dissemination of public health knowledge and the application of such knowledge to the practical matter of living does not tend by prolonging the lives of the so-called

unfit to increase the burdens on the body politic through a greater morbidity and mortality from wasting diseases later on in life. The pediatricians and maternity workers have been especially active in repudiating such a criticism specifically directed at the saving of babies now-a-days who under similar conditions almost always succumbed a quarter of a century ago. It probably takes an exception to prove the rule,

but nevertheless we are somewhat shocked to read in the health column of a North Carolina morning daily, which column is conducted by a man who was formerly health officer of one of the largest cities in the United States, the following reply to a correspondent's question as to why more people seem to have heart disease than ever before:

"Both heart disease and sympathetic high blood pressure are on the increase. In the old days the number of people who died before they were old enough to develop heart disease or high blood pressure was very large. Now it is much smaller.

"The diseases such as typhoid, scarlet fever and diphtheria, which formerly killed many, have almost gone out of business. There must be some disease to terminate life some time or other, and heart disease and high blood pressure are serving."

Now in our opinion to argue that there must be some disease to terminate life some time or other would be exactly like arguing that to end the existence of every automobile it would be necessary to run it into a tree and tear it all to pieces. If there is any truth or any scientific basis whatever for the life-long contention of men like Dr. John Harvey Kellogg, that if the human race would adopt what Dr. Kellogg terms a biological system of living and apply fully the known principles of disease prevention, the life of every person could be well rounded, barring termination by unavoidable accident, and death eventually would be a process as natural as birth itself. If, as just stated, there is any basis of truth in such teaching, then such doctrine as preached in the health column referred to is especially fallacious and dangerous. If such be accepted generally, there would be no need of any more public health work and the newspaper purchasing the material for such a health column could very properly save its money and devote its space to discussions on how to reduce taxes while spending more money building roads and schools. There is no more scientific reason for asserting that the enormous increase in deaths from heart disease is due to prolongation of life and the adding of additional years

thereto than to argue that more people are killed by lightning in town, because more people live in town, than are killed in the open spaces in the country. The truth is, there are a great many causes for the increase in the mortality from heart disease; some of which causes are well-known and fully understood and some of which are not.

In every exhaustive study and analysis recently made by competent authorities it has been clearly demonstrated that scientific public health work does not operate to preserve the unfit. One of the most convincing of recent studies was made by Professor I. S. Falk of the Department of Hygiene and Bacteriology of the University of Chicago and a member of the staff of the Chicago City Health Department. Professor Falk presented his analysis in a paper read at the last meeting of the American Public Health Association and published in the February, 1927, issue of the *Journal* of that association. The title of the paper is "*Does Infant Welfare Work Operate to Preserve the Unfit?*" We do not have space for the article in full but we desire to call attention to the opening paragraph, which is a significant declaration of principles governing all modern health work:

"It is a fundamental tenet among the practitioners of preventive medicine that premature morbidity and mortality should be reduced to the practicable minimum. The program of public health administration in no wise contemplates the 'preservation of the unfit.' The avowed aims are the elimination of insanitary conditions in the environment of man, the provision of safe and adequate food supplies, the proper disposal of personal and community wastes, the reduction of communicable diseases, the specific immunization of individuals against certain parasitic diseases and the education of the public in the practice of personal hygiene."

In his concluding summary Doctor Falk says that:

"There have been adduced significant evidences that the saving of infant lives is followed by associated savings in the subsequent years of life. I can find no evidence for, and much that is opposed to the view, that the savings in subsequent years of life would have been

greater if there had been no reductions in infant mortality. The data which were presented have been checked and confirmed in detail by similar correlation coefficients computed for each of the principal groups of causes of infant deaths taken separately—diarrheal, congenital and 'all others.' These further computations have demonstrated that high or low infant mortalities from diarrheal causes have been followed by corresponding mortalities from all causes in the four subsequent years of life. It was not surprising that variations in congenital mortality were not correlated with mortality in subsequent years.

"It has been found, also, that infant mortality, whether from all causes, from diarrheal or from congenital causes, fluctuated synchronously with the general mortality of the population. The discovery of a significant positive correlation between mortality from

congenital causes and the general mortality of the entire population appears to emphasize the role of environmental factors in determining the incidence of congenital debilities and malformations.

"Everything that has come out of our statistical studies tends to emphasize the validity of a dictum enunciated many years ago by Farr: 'in addition to the immediate accomplishment in life saving, infant welfare operates to preserve fitness by reducing the incidence of damaging but nonlethal sickness. Nothing has appeared in our data to indicate that infant welfare work operates to preserve the unfit. So far as evidence has been obtained from Chicago's vital statistics for the years 1900-1925, it appears that reductions in infant mortality have operated primarily in a manner to conserve the natural hygienic resources of infancy and childhood.'"

PUBLIC HEALTH PROGRESS IN 1926

By IRA V. HISCOCK

While few milestones were set to mark significant contributions in the public health field, the past year may be considered one of continued progress. Public health programs have expanded; tendencies for increased appropriations and greater recognition of official responsibility for health promotion and disease prevention have been manifested; and the value of trained health officers, with secure tenure, has been recognized by the appointive bodies of certain large cities.

Information concerning administrative health practice in different sections of the country has been assembled by the American Public Health Association, and tentative standards of health practice (published in the Appraisal Form for City Health Work) have been tested by cities throughout the United States. In conjunction with this work have been prepared programs of community health organization for cities and counties, in addition to suggested record forms for communicable disease control, laboratory, and nursing work. A committee of experts has revised the invaluable report on standard regula-

tions for the control of communicable diseases. From this report one may obtain the best information available concerning the infective agent, the mode of transmission, incubation period, period of communicability, and methods of control of the various communicable diseases. This revised report has been officially approved by the United States Public Health Service and published in Public Health Reports, December 17, 1926. These various activities should lead to improved standards and greater economy and uniformity of health service throughout the country.

Investigative work concerning the causes and methods of control of the diseases of man has been continued. Largely during the past year it has been possible to standardize products used in the prevention and treatment of scarlet fever to an extent warranting their application through commercial manufacture. To quote from the annual report of the United States Public Health Service: "The earlier results indicate a decided benefit from the use of the anti-toxic serum in treatment but

a more limited usefulness for the immunizing injections."

From the standpoint of the etiology of disease, it has been claimed that the germ of measles has been identified as a green-roducing streptococcus. Dr. Ferry and his associates believe that their organism is different from that previously described by Tunnicliff, that it produces a specific soluble toxin, which according to the authors, can be used for a skin test similar to the Schick and Dick reactions to distinguish between immunes and non-immunes, and that it is specifically neutralized by convalescent serum. Dr. W. H. Park, of New York, however, has presented data which throw doubt upon several of the conclusions advanced, and it is believed the true significance of this organism in relation to measles will require much further work before this important problem is clarified. The use of convalescent measles serum in protecting young children recently exposed to the disease has been continued in certain quarters, and the results, especially in Providence, seem promising.

Protection of children against diphtheria. (especially children of pre-school age) has been continued in several quarters on a large scale. Interest is apparently growing in the possible substitution for toxin-antitoxin as an active immunizing agent of toxoid—or of an anatoxin described by Ramon. These are toxins which have been detoxified by exposure to heat and formaldehyde, or in some similar manner. For young children, the group with which we are most vitally concerned, toxoid seems to offer certain advantages over toxin-antitoxin.

Activities have been continued for improving and safeguarding municipal milk supplies, and the importance of pasteurization has been repeatedly emphasized. The success of the Chicago Health Department in securing the tuberculin testing of all cattle supplying milk to the city, whether pasteurized or not, is noteworthy. Several large cities, including Richmond, Virginia, have similar regulations. One hundred cities have adopted the tentative standard milk ordinance developed by the United States Public Health Service

which promises to result in greater uniformity of milk supervision measures.

Measures for safeguarding shellfish from pollution and contamination, as conducted by the Public Health Service in coöperation in the Bureau of Chemistry and the Bureau of Fisheries, have resulted in great improvements in the methods used by the producing states, and in renewed confidence in the safety of shellfish on the part of the consuming states. Reasonably uniform rules, regulations and methods of enforcement are being developed which will result in better observance as well as in better enforcement.

The Surgeon General of the United States Public Health Service reports gratifying progress in the development of measures for insuring safe drinking-water supplies in trains and vessels, and assistance rendered the National Park Service in the designing and installation of sanitary equipment in the national parks and in maintaining proper sanitary conditions in the numerous camps, hotels, dining-rooms, and kitchens. The railroads have now practically completed the installation of the new type of water coolers for passenger cars, wherein there is complete separation of the ice and drinking water. The vast and increasing number of sightseers and tourists who come to the national parks and journey to various parts of the country makes sanitation imperative as a measure for the prevention of the interstate spread of disease.

The inspection at European ports of emigrants intending to come to the United States, which was begun during the year, is apparently a great success. There has been no importation of plague, cholera, yellow fever, or other major quarantinable disease during the year. Smallpox is present, to a less extent, practically everywhere, the disease having had a wide prevalence in the United States among groups unvaccinated, especially in Florida and California.

The importance of the public health nurse in the modern health program is realized more fully each year, and advances are being made in the exten-

sion of this service. The advantages of a generalized program in which a nurse renders all types of service in a district assigned to her are being repeatedly demonstrated. Studies recently reported by the East Harlem Nursing and Health Demonstration indicate again that the generalized type of visit costs less, but insures more effective service from the standpoint of the family as a whole, than does the specialized type of service.

Finally, a quotation from the Surgeon General of the United States Public Health Service may be appropriate in indicating achievements, as well as problems to be met.

"During the last quarter of a century the death rate from typhoid fever in the death registration area of the United States has been reduced more than 80 per cent; the death rate from tuberculosis about 55 per cent; and the rate

from diphtheria, 70 per cent. These are some of the records which sanitarians contemplate with pride, and from which they receive courage for future work. Other communicable diseases show creditable reductions in both case and death rates, but the official records for some diseases are not so encouraging.

"The death rates from cancer, diseases of the heart, diabetes, and other diseases are increasing, while automobile accidents, unknown a few years ago, are taking a toll of human life which is appalling. The steady increase in deaths and disablements from this cause each year is disheartening to the person who sees the suffering and loss of life as well as the saving of time in transportation and the greater freedom of movement which the automobile has brought to our people."—*New Haven (Conn.) Health Bulletin*.

INSECTS AND DISEASE

A recent writer has made the statement that the struggle of the future will be between man and insects. Some such struggle has unquestionably gone on since the earliest times, and the non-habitability by the white man of many of the most fertile sections of the world has certainly been largely due to the presence of insects which carry disease. The writer just quoted had in mind more than diseases of man. In fact, he was considering chiefly diseases of food-producing plants, and the question which is of such rapidly-growing importance—food supply for the race. We need only mention the ravages of the Hessian fly, San Jose scale, codling moth, and the cotton boll weevil, which cause such tremendous losses and so much anxiety to our agricultural interests. Domestic animals on which we are dependent are also victims of insect pests and insect-borne diseases.

As far as man himself is concerned, we have grown accustomed to thinking of the house-fly as a bearer of typhoid fever and other intestinal diseases, the tse fly as the carrier of sleeping sickness, the flea as carrier of bubonic plague, mosquitoes as agents in transmitting malaria, yellow fever and dengue, the louse as carrier of typhus and

trench fevers, the tick as carrier of Rocky Mountain spotted and relapsing fevers, and more recently we have learned of deer-fly fever (tularemia). Indeed, the list is too long for mention here, and additions are being made constantly by new discoveries.

The insect responsible for the transmission of Kala-azar is the most recent addition to the list, a disease which fortunately does not affect us in this country, but which is none the less interesting from this general standpoint. A commission headed by Lieut.-Col. Christophers, working in India since 1924, has concluded that the sandfly (*Phlebotomus argentipes*) is the agent of transmission in this disease. The bedbug, which has been incriminated in the past, has been excluded by careful work, as has also the common louse. The commission has arrived at this conclusion, in spite of some facts which speak to the contrary, most of the evidence being so strong, that they "for the present" hold that the sandfly is the "probable transmitter." It was proved that 25 per cent of sandflies which bit patients became infected with the parasite in spite of the fact that they exist in very small numbers in the peripheral circulations. The great

difficulty in accepting this insect as the carrier lies in the fact that infected flies die, after laying their eggs, within five days of their infection, but, as mentioned, other evidence was so strong that for the present at least the commission has felt itself compelled to reach the announced conclusion in spite of this difficulty.

It is certain that the public in general does not, and it is questionable if even the profession does, realize what a part insects play in, or rather against, our lives and well-being, and it may well be that the struggle for existence in the future will be between man and insects. It may even now have begun.—*American Journal of Public Health.*

MAN'S DIET DEVELOPED IN STAGES

Our present diet is the result of three great changes, writes Dr. Urban Gareau in the Canadian Medical Association Journal. The three stages may be considered as the precooking period, the cooking period, and the food-culture period. These changes in diet were accompanied by changes in man's digestive organs, and were dependent on his gradual evolution and civilization.

In the precooking period, many eons ago, man lived chiefly on seeds, nuts, berries, plant leaves, shoots and roots, honey, bark and a little animal food that was easily pounced upon, such as snails, insects, and birds' eggs. The strain of this large vegetable intake resulted in heavy jaws and strong teeth and a large and very muscular intestinal tract.

Skill in making weapons and greater mental powers made it possible for man to extend his diet to include the flesh of large animals and fish. Probably the desire for new foods and better hunting grounds caused his wanderings about the earth. At the same time, the intestinal tract grew smaller, and it is probably here that the appendix, once a useful organ, began to diminish.

With the discovery of fire, man entered on the cooking period. Stone baking and steaming and cooking by holding the food directly over the fire were the first methods. Boiling could

not be done until a vessel was discovered that would withstand the heat. Shells of fish, large eggs, and plaited rushes were not very satisfactory. One method that may have been used at this early time, and that the Eskimos still employ, is that of boiling water by dropping hot stones into water-tight reed vessels.

The epoch of food culture is thought to have begun about 30,000 years ago, when man first protected and stored fruits and seeds. Animal husbandry may have begun the day some venture-some cave man first drove wild pigs or sheep or goats into a cavern and secured them there for future slaughter. Agriculture was at first very casual, as man roved about, never tilling the same field twice.

When neolithic man began to settle on arable soil, food culture began in earnest, animals were domesticated, and progress toward our present civilization was gradually made. Probably fruits were first cultivated, then roots and finally cereals, which require more care.

Man is now experimenting with an entirely new kind of dietary. The future alone can tell whether he will again rise to the occasion and adapt himself to this latest change in his diet.—*Hygeia.*

FUTURE DOCTOR WILL BE ADVISER

Vanderbilt University Man Turns Prophet at Meeting

The physician of the future was pictured here as a family adviser in hygiene and preventive medicine, rather than a man called in when disease has stricken and a cure is needed, before the annual congress of the American Medical Association's council on medi-

cine education and hospitals. Dr. Walter S. Leathers, professor of preventive medicine, Vanderbilt University, Nashville, Tenn., was the prophet.

"There has been remarkable improvement of the standards of medical education, in laboratory teaching, the per-

sonnel of faculties, hospital facilities for clinical instruction, and so forth during the past twenty years," Dr. Leathers said. "Insufficient emphasis, however, has been placed upon control of disease.

"Present-day tendencies indicate that the physician of the future will be faced with a new type of practice. He

must become a family adviser in hygiene and preventive medicine. Also, he must participate in a more concrete way in community health service. Consequently, every medical school should have a department of preventive medicine and public health, with a full-time personnel and maintain university standards in its scope and ideals."—*The Asheville Citizen*.

IS MEDICAL SCIENCE TAKING ADVANTAGE OF ITS OPPORTUNITIES?

Although Scientific Medical Research Has Unfolded Many Discoveries, the Present State of Medicine Still Shows Many Obstacles to be Overcome

By THOMAS PARRAN, JR., M.D., Assistant Surgeon General,
United States Public Health Service, Washington, D. C.

The state of medicine is an index of the civilization of any age and country, one of the best, perhaps, by which it can be judged.—*Oliver Wendell Holmes*.

What is meant by "state of medicine"? In this connection our thoughts range over the whole field of scientific medical research. The discoveries in every phase of medical science appear so rapidly that it is difficult to keep pace with them, and impossible to attempt to recount all of them in the confines of a brief paper. We marvel at the progress of bacteriology in discovering facts concerning the cause of disease, and especially methods of prevention and cure. We think of the many contributions of chemistry and physics to the advancement of medical science, and our thoughts turn to the great hospitals and educational institutions which are monuments to medical progress.

Brilliant Medical Progress

The progress of medicine, especially preventive medicine, furnishes one of the most brilliant pages in the history of mankind. As astounding as have been the accomplishments of our generation in every phase of science, none have a more significant bearing on the ultimate welfare of the race than the

discoveries of modern medicine, pointing the way to the prevention and alleviation of human ills. Judged by these standards, medicine has more than kept pace with our civilization.

There is another and equally important approach to the evaluation of the state of medicine, and that lies in a consideration of the extent to which the knowledge of medical science is being applied to the service of humanity. How fully is medicine meeting its responsibility in giving to the average citizen the benefits of the information that is ours? Although for many diseases, the cause, mode of transmission, and method of prevention are completely known, and although we have at hand all of the knowledge necessary to fulfill the visions of Pasteur in causing certain diseases to disappear from the face of the earth, this ideal has not been attained or approached in a single instance. The illnesses and deaths that are constantly occurring from such diseases as diphtheria, typhoid fever, smallpox, scarlet fever, and malaria, and the enormous toll of sickness and deaths that is associated with childbirth and infancy, are constant reminders that the triumphs of medical science are not being fully utilized for the prevention and cure of disease.

There are two major directions in which medicine seeks to be of practical service to humanity: (1) through the family physician; and (2) through organized public health effort. The respective fields of activity of these two groups formerly was distinct, the health officer dealt only with prevention, the family physician largely with cure. As medicine has progressed, however, the line of demarcation between these two forces has become indistinct, and there is much confusion as to what logically should be the proper field of the health officer and of the private physician. The reason for this will be apparent when we consider the evolution of preventive medicine.

No Longer a Policeman

The health officer in past generations was in effect a policeman, cases of contagion were quarantined, and even whole communities were isolated by preventing all intercourse with their neighbors. Bacteriology showed us, however, that a well person or carrier was often the principle source of danger. Other discoveries as to the causation and mode of the spread of disease pointed the way to achievements in engineering, with the result that environmental sanitation has proceeded far in eliminating those diseases spread by insanitary conditions of environment.

Another weapon has been given the forces of prevention by accurate methods of laboratory diagnosis and by specific biologic products for the prevention and cure of certain diseases. The chemist also has contributed other weapons in our attack on disease through such drugs as the arsphenamines. The greatest progress has been made in eliminating those diseases for which specific measures of prevention and cure are available or which are spread by unhealthful conditions in the environment.

Individual Cooperation

As the vital statistics records are studied, however, it is found that the major problems of the present and of the future are the degenerative diseases, cancer, venereal diseases, tuberculosis, and others in the control of which intimate personal coöperation of the individual is needed. It is for this

reason that public health has turned its attention from the environment to the individual in advancing the cause of prevention. The interest of public health lies also in improving physical fitness of the race and emphasizing good health no less than in seeking to prevent contagion. The line of demarcation is indistinct between the cure and prevention of those diseases which are now major problems.

The greatest problem facing the private and the public medical forces is to secure early and adequate medical treatment for the public. Fortunately, the interests of the public and of the medical profession are identical in this matter. The public suffers because of the lack of medical service, and the physician suffers because his services are not fully utilized. The need for more early and adequate medical service is seen throughout the whole life span. Only a small proportion of expectant mothers have competent medical care throughout their pregnancy, and the high maternity death rate reflects this condition. Very few infants receive the hygienic medical advice and guidance that is desirable. The large proportion of physical and dental defects among school children attests to the lack of medical care in this age group. The same is true in adolescence and during middle age, and the rapid increase in the death rate from degenerative diseases and from cancer further emphasizes this universal need.

In an effort to meet this need, public health and medical organizations have been promoting the periodic physical examination. In regard to this campaign, more has been said and less actually done than in any other modern health effort. The physicians generally are not interested in making these examinations of apparently well people. Our training has been too much in looking for gross pathology and too little in considering the slight deviations from normal bodily functions. The health officer can do much to promote the interest of the public in periodic physical examinations, but little will be accomplished until the practicing physicians themselves consistently educate their patients to seek this type of medical service, and until they show the same interest in detecting early symptoms.

More Service, Less Cost

The public needs more medical service, and the furnishing of this service at a cost within the ability of the average person to pay constitutes the most important problem facing medicine today. If the private physician will furnish preventive medical service, there will be no need for the public itself to do so through a system of State medicine. In medicine, as in every form of life, evolution is taking place and nothing we can say or do will impede the progress of this evolution. We do have it within our power, however, to guide the progress or evolution of medicine along those lines which are to the best interest of the public. The medical profession and the public health forces have a mutual interest in this problem. This mutual interest demands concerted efforts between those two groups. Each

group has a responsibility to the other and to the public.

The private practitioner, through the local medical societies, must interest himself in the health problems of the community. He must give to the community the advice and the guidance necessary for it to meet properly its community health needs, and he must practice preventive medicine.

The public health officer must secure the wholehearted support of the practicing physician in the conduct of his health program. The coöperation of the medical profession is necessary if the best progress is to be made in the solution of any health problem.

It is only by such concerted and united effort on the part of medical and public-health agencies that the science of medicine can be of more complete service to humanity.—*The Nation's Health*.

NEW STUDIES OF THE CIRCULATION

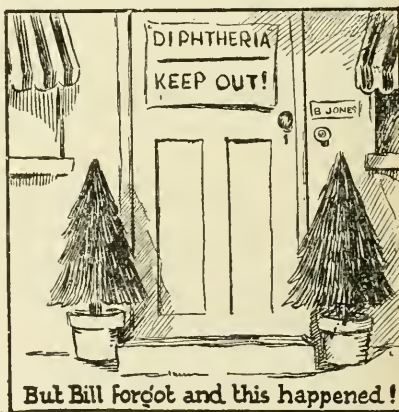
Henderson and Haggard, of Yale University, have for many years been giving special attention to the study of the blood and the circulation. They have recently perfected a method by which the amount of blood circulated by the heart can be measured with a considerable degree of accuracy. They find that the amount of blood circulated through the lungs is practically equal to the amount of air inhaled and may reach the enormous volume of nine gallons per minute. By exercise, the amount of air passing through the lungs may be increased to ten times the ordinary amount and the volume of blood circulated to five times the ordinary.

The increased demand of oxygen occasioned by vigorous exercise is met by the body in three ways: (1) an increased pulse rate; (2) an increase in the heart stroke, that is, in the amount of blood sent out by the heart at each beat; and (3) by an increased utilization of oxygen, which is indicated by an

increased difference in oxygen content between the arterial and the venous blood. This difference is ordinarily about four per cent. Up to a certain point, the increased pulse rate and increase in the heart stroke may increase the oxygen supply sufficiently to prevent an increase in the difference in the oxygen content of the arterial and venous blood.

In the violent exercises of athletes, the amount of oxygen conveyed to the tissues may become insufficient. The development of this condition of insufficiency is the limiting factor in athletics. The same condition develops in cases of advanced organic disease of the heart when the heart muscle becomes incapable of doing the work required of it. In the case of athletes, the decrease in the body's store of oxygen is quickly made good by the succeeding rest. In the case of heart disease, the inhalation of oxygen may prove a valuable resource by which life may be prolonged.—From *Good Health*. Battle Creek, Mich.

BILL JONES GOES TO THE CIRCUS



— If He Bites Your Child!

1. NOTIFY YOUR PHYSICIAN AT ONCE. The nature of the wound is no indication of the possibility of exposure to Rabies. Many cases of Rabies develop from a slight scratch on the skin.
2. DO NOT KILL THE DOG. Secure it, if possible, and lock it up for observation. A rabid animal may not show any immediate symptoms.
3. DON'T TAKE CHANCES. If your doctor advises protective treatment with Rabies Vaccine, have it started *at once*. If the dog is proven not to have rabies, no harm will have been done. If the dog has rabies, *the life of the child will have been saved*.



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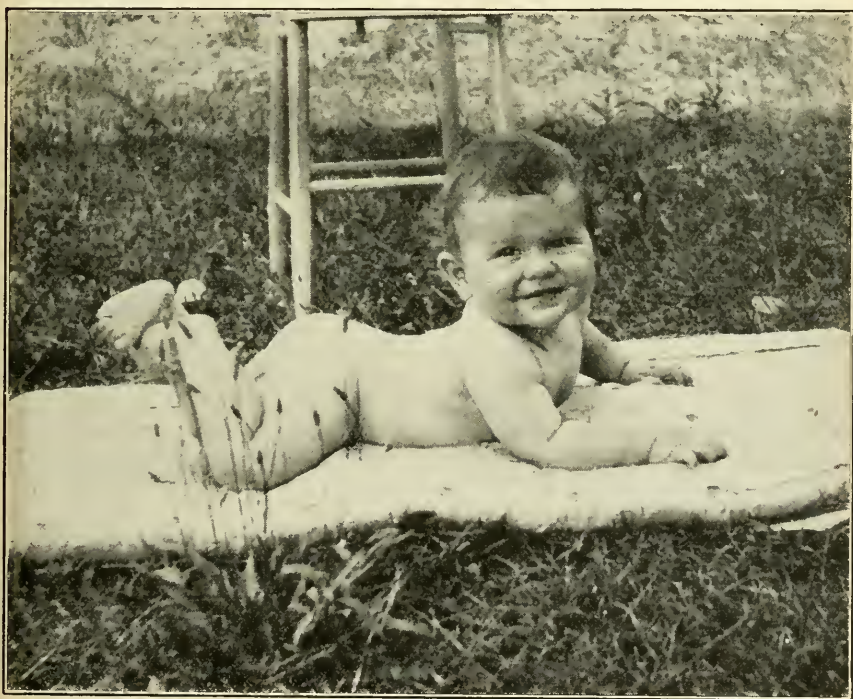
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A SCIENTIFIC BACKYARD SUNBATH



The ten months old daughter of a former employe of the State Board of Health taking a sunbath on the premises of its parents at their home in Raleigh. Twenty-one pounds and a Queen of Babyland. Picture illustrates that it is possible to administer a sunbath properly without going to a sanatorium in New York State or Arizona.

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
Colds	Influenza	Tuberculosis Placards
Clean-up Placards	Malaria	Typhoid Fever
Chickenpox	Measles	Typhoid Placards
Diphtheria	Pellagra	Veneral Diseases
Don't Spit Placards	Public Health Laws	Water Supplies
Eyes	Prenatal Care	Whooping Cough
Flies		

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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THE Health Bulletin



PUBLISHED BY THE NORTH CAROLINA STATE BOARD OF HEALTH

Vol. XLII

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EIGHTY THOUSAND NEW CITIZENS ANNUALLY

More than eighty thousand babies are born every year in the State of North Carolina. We have heard such statements repeated until we could take it as a matter of course. Ordinarily speaking, about the only news value in such a statement is to contrast it with an imaginary news article to the effect that there were no babies born in the State of North Carolina each year.

Speaking from the standpoint of public health, the serious import of the birth rate in North Carolina is the fact that being a baby still constitutes the most hazardous occupation in the State. A further and still more significant cause for worry and work is the fact that beginning with the month of May the death rate of babies mounts higher and higher throughout the summer, the curve coming on back down about October. In other words, the death rate of babies follows the house fly. On the other hand, the general death rate including all the adult population beginning with the month of May curves down lower and lower, beginning to climb back up about October or November. In short, the summer months are the healthiest and safest period of the year for all the population except the babies. The army of babies is somewhat in the same position as the old type armies between warring nations who went into winter quarters and a period of inactivity and comparative safety to emerge in the summertime and to go into battle with large casualties on each side and tremendous hazards to both opposing armies. The army of babies annually go to battle at the beginning of summer with other numberless foes, seen and unseen. In the first place, the babies have to battle against sudden climatic changes which cause hot days and cool nights,

especially in the month of May, and unless the parents meet changing conditions instantly with intelligence and care, the casualties begin. At this period the house flies and mosquitoes and other insect pests which are dangerous to the health of babies begin to make their appearance, and unless protection is complete the lives of many babies are sacrificed from this cause. Spring rains or spring droughts make changes in the water line for the thousands of babies born in the country and living on the farms, which, added to careless habits of parents in allowing the water to become polluted and who fail to thoroughly boil all water given to babies at this period, is the cause of numbers of deaths. The hot weather affects the milk, which, of course, constitutes the chief food of the babies, and is especially disastrous to bottle-fed babies unless every care is exercised in handling the milk and keeping it cold and protected from flies from the time it is taken from the cow until consumed by the baby. In this connection it cannot be repeated too often that at least seventy per cent of all baby deaths under one year of age occurs among bottle-fed babies.

One of the most important items for every mother to decide in the affirmative, unless ordered to do otherwise by the attending physician, is to feed her baby from the breast from the start. Mother's breast milk comes, of course, uncontaminated, and it is a recognized fact that in some way it transmits immunity against certain diseases during the first year. This is only one of the many wise provisions of nature for the preservation of the race. Another thing is that mother's milk very rarely disagrees with the baby. Some mothers may find it necessary to supplement the

feeding of the infant where the breast milk is not sufficient for the baby's needs: but when such is the case the attending physician can easily advise the formula to use and also advise how to use it with safety to the baby.

There has been very little material progress made in lowering the infant death rate in North Carolina, notwithstanding educational efforts of the State Board of Health and various county and city boards of health have been majoring in this direction for many years. The State Board of Health, in cooperation financially with funds procured through the Sheppard-Towner law and dispersed through the Children's Bureau at Washington, has been spending many thousands of dollars per year for a number of years, but as yet scarcely an impression has been made toward a substantial reduction in the infant death rate. This fact should serve to convince all of us that the chief need is that the facilities known to protect and save the babies during the first two years of life must be available for all of the mothers in the State, especially the poorest. By facilities we mean a knowledge of how to avoid mistakes in feeding, clothing, and caring for babies from the moment of birth and the will and power to apply practically such knowledge. This means the necessity for state-wide education, teaching by example as well as theory, and the teaching must be driven home to the remotest corners of the State, and will probably take at least a generation to make much progress.

As just said, notwithstanding all the efforts directed at a reduction of infant mortality, the death rate still remains high. There is however evidence on every hand that progress is being made. Even a reduction of one per cent means a great deal and if so much can be accomplished each year, hundreds of babies' lives will be saved annually as a result of such efforts. The very fact that during the strenuous period of the last few years since the close of the war that the rate has not mounted any higher than it has is evidence of some progress. The great problem to be considered is the problem of the mother who wants to do everything humanly possible for her baby and yet does not know how and what

to do. But that is another story which we will discuss elsewhere in this issue.

This army of new citizens are the best in the land for us. They are our own flesh and blood. They are to grow up steeped in our traditions and to carry on the progress of the State ac-



A SUNSHINE BOY

Nine months old sunshine boy, playmate of the robins and blue birds in Anderson Heights, Raleigh. His father is a university graduate, and member of the State Highway Engineering force. As you can see for yourself his mother simply knows how to care for a baby. About twenty years from now he will undoubtedly be carrying the ball to Charlottesville.

cording to the opportunity we give them. That is those who escape falling in the "Babies' Battle" of the first two or three years will later on be in responsible charge of affairs. If we fail in our duty to them and carelessly allow fifty to seventy-five out of each thousand born to die before they are

two years old, the charge of criminal neglect must lie at our door. The parents and the State acting together owe to every baby born at least an even chance to reach the mature years of life with good health and a fair amount of education. But back to our eighty thousand new comers. Think of it, a group of unspoiled, live human beings larger than any city of the State coming every year. No man can even estimate the latent possibilities that may lie in such a large aggregation of Babyland. The chambers of commerce representing the commercial interests are continually advertising the attractions of our cities and towns in an effort to draw new citizens as well as industries. New citizens mean increased population. Increased population means greater purchasing power by the public, and therefore more sales for the stores and more possible business for the doctors and the lawyers, greater assets for the banks, more subscriptions for the newspapers, more pupils for the schools and so more jobs for more teachers and more money for the tax collectors and so on. It does not seem to matter much where such citizens come from nor how old they are nor whether they have any money or property. It matters little with the average business organization whether such new citizens are in good health and possessed of good moral character. The main essential seems to be to get them. When they are here they will have to eat will they not, and wear clothes: and don't that spell money?

To pursue this thought further, suppose all the daily papers in North Caro-

lina were to announce in their issue of Friday, July 1st, 1927, that Col. Behemoth of Northern Europe and Mr. Rastus Johnson of South Africa would begin on January 1st, 1928, to bring into North Carolina about seven thousand new citizens each month from Europe and Africa. These people to be distributed throughout the State on a per capita basis according to population, no vital statistics registration district in the State to be missed. Would there be a commotion? We'll say there would. There would not be standing room in Brunswick County to accommodate half the real estate agents who would meet the new comers as they steamed up the Cape Fear, to say nothing of welcoming delegations from various civic clubs, etc. Why would we be so affected? Because of the possibilities and opportunities such a situation would present.

Now for the moral in this fairy supposition: We have coming into our State each month nearly seven thousand fine little citizens. Each one a bundle of possibilities and in comparative value from every point of the compass worth many times more to the State than any aggregation of foreigners that could possibly be induced to move in here from anywhere. Let us give them the kind of a welcoming they need to get them through babyhood, by assuring to them the kind of parents and the kind of homes and communities necessary to make this an accomplished fact.

Let the slogan for this summer in North Carolina be "Down with the Baby Death Rate."

INFANT MORTALITY

In the year 1925, 6,591 babies died in North Carolina before reaching the end of their first year of life. Looking at the figures from another angle, that year there were 83,700 live births of babies in the State, and of that number before the end of the year 6,591 had died, or nearly 8 per cent of all those who were born. Analyzing the figures from still another angle, a large per cent of these deaths were caused from diseases like diarrhoea and enteritis, diseases caused from an infectious agent received by the baby through

its food or water. There is no need to go further into rates and percentages. These are cold figures, which the most ignorant man or woman in the State can understand.

In the language of the State University *News Letter*: "Our high rate of infant mortality is nothing short of disgraceful. Numbers of countries of the world have infant mortality rates so low as to put us to shame. Ignorance of the care of infants is the chief cause of death in North Carolina and throughout the entire Nation." The

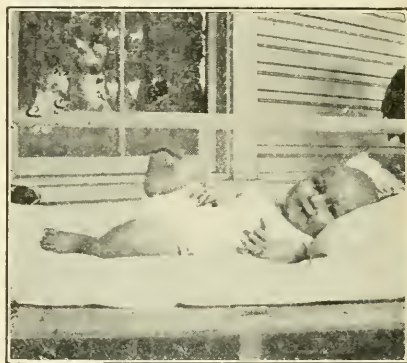
News Letter is right. Our high rate is disgraceful. The State Board of Health, the different city and county boards of health, and numerous organizations independent of either of these have been hammering on the question for a number of years; but, like the editor of the *News Letter* says, ignorance of the care of infants remains as the chief cause of this high mortality.

One of the chief troubles is in reaching the mothers of infants and imparting to them in language that they can understand a knowledge of the care that infants should have. If any dairyman or hog raiser or trucker or cotton planter or poultryman or lumberman were to go about their business each summer with as little accurate information and as little system and care as some of the families undertake to bring children into the world and to rear them, the whole business fabric of the State would go bankrupt in one year. It used to be said that a farmer or a farm laborer was generally a man who did not have sense enough to do anything else, in short, a clodhopper, piddling around just outside the insane asylum walls. Of course, this was a travesty on an occupation that requires more brains and more hard work to make a living at than any other occupation or profession in the world. People are finding that out now. But such a designation would certainly seem to apply to a lot of people who undertake to raise children.

A baby is the only animal in the world that is absolutely helpless from birth. For the first few years of life it is completely dependent on the care of somebody else for every act required to maintain its existence. Even a little chick, before it is twenty-four hours old, can dart around and dodge danger and pick up items of food, but a baby is completely helpless. If the mother is ignorant of the fact that polluted water contains germs dangerous to the baby's life, or that contaminated milk also contains bacilli that mean death to the infant, no power in the world can save that particular child when given such water or such milk from the consequences which follow.

We like to think of this problem as largely an economical one, which, of course, it is to a certain extent, but not

altogether by a great deal. There are many babies succumbing each year, due to sheer ignorance and carelessness on the part of their parents. To attribute all of this mortality to poverty, people in easy circumstances, who boast of plenty of this world's goods, always like to mention the fact that we have the poor with us all the time, just as if the mere fact that poor people exist was an excuse for failure to extend to such people the necessary care and helpful interest which they must have. Our interest is equally acute toward both classes—the very poor and ignorant and the better-off though ignorant parent—this for the fact that mortality



JUST BACK FROM SAND MAN LAND

"Life, what is it but a dream?"

is mortality, and that a baby is just as bad off if it belongs in a home of well-to-do parents who are ignorant of its care, even though they love it better than life itself, as the baby in a home of poverty-stricken parents who love it just as strongly and who are ignorant of its care, and do not have the means to improve its condition. Either baby is equally helpless. Naturally there is a great deal less excuse for the well-to-do parent being ignorant than there is for the very poor parent. In the first place, the very poor mother is obliged to work to help make a living. This fact becomes all the more solemn to contemplate when we realize that a big majority of people have to be concerned very seriously for their daily bread each day. The problem of unemployment, of poor crops, of sickness

of the wage-earner or the worker adds to the complication and makes the difficulties worse, and the baby suffers.

We would like to emphasize in this brief article right now, at the beginning of another summer, that soap and water are cheap. Soap can even be made at home, and a few cotton garments are easily washed and can be kept clean each day with a few minutes effort. A small piece of cotton netting placed over a wooden crib, hand-made, if necessary, and a tiny piece of rubber, bought for a dime at the ten-cent store, properly placed each day, and kept clean, is sufficient to keep any baby comfortable and free from flies, and therefore clean and happy. A few minutes effort on the

part of the very poorest mother will suffice to boil the drinking water, in a tin cup, over the fire coals, if necessary; and if the mother is not nursing the baby from her breast, the same process will suffice to boil the milk given to such baby, and to thoroughly prepare any other item of food which the larger child needs. Therefore, poverty can be no excuse, leaving ignorance as the chief curse to combat. Until every prospective mother in the State has an opportunity to know how to apply the simple precaution necessary for the safety of her baby, we shall continue as an ignorant State, and our baby death rate will continue to advertise us to the world as a partially uncivilized State.

RAISING BABY FULL TIME JOB

Some English novelists have recently been carrying on quite a warm discussion as to whether or not raising a baby requires full-time attention. This discussion has been carried on in the English newspapers, magazines, and over the radio. Quite a few of its echoes have reached this side of the water already. Although the discussion has been carried on in the stolid manner characteristic of Englishmen, quite a bit of it has been very pointed. One woman novelist, very much on the affirmative side of the question, writes that she once ran a baby herself. Writing of her experience, she exaggerates some of her exacting duties in a manner that would do credit to a native of Georgia or North Carolina indulging in a political argument. As an example of some of the things she said she had to do was to walk a mile each morning to a neighboring farm for the purpose of getting butter for the baby. Of course, that is written in poetic license, so to speak. In the first place, the baby needed very little butter to run him; and in the second place, on walking the mile distance the first time she would have realized the wisdom of procuring a supply sufficient for more than one day. She waxes very eloquent on the necessity for entertaining the baby and to keep the baby from getting bored, all of which any mother or any nurse would appreciate.

Resigning all levity, however, the raising of a baby is certainly a full-time job, if it is carried on in a proper and successful manner, and in a manner agreeable to the best interest of the baby and the parents. A baby demands constant attention twenty-four hours out of the day. Some ear must be listening to its slightest cry, be it mid-night or morning, and if the cry is not heeded, disaster may result. One woman, writing, recalled a statement that she heard her father make when she was a child, that it was quite a common thing for him to get up in the night and hand out at least twenty "dinks" of water. The parent must be alert at every sound and call. A sudden change of weather may demand more cover; a matter of thirty minutes or more might prove disastrous to the baby if delayed that long; and a thousand and one things demand attention day and night. The baby's food must be just right, and it must be given at the exact minute scheduled for the baby's best interest; the clothing must be constantly adjusted; it must be protected from flies and other pests and dangers; it must be constantly watched for symptoms of illness, and immediate action taken when such occurs. In fact, if there is any job in the whole wide world requiring all the time of at least one individual, it is the job of properly looking after a baby. For the

good of the world and of the race, very near a hundred per cent of mothers find this job attractive and appealing, and find it a joy and a pleasure instead of drudgery. It is well that such is the case, but it is none the less hard on the mother.

We do not know what proportion of houses compared to those standing in the State are burned each year; but we do know that it is a not infrequent occurrence to read in the daily papers of some house that has been destroyed by fire in the absence of the parents and some children or small child burned before rescue could be effected. We know that it is a proportion entirely too large. Such occurrences indicate clearly the great danger of leaving helpless children alone for any length of time. The writer well remembers the shock that occurred in a small

town a third of a century or more ago when one of the richest men in the town and his wife attended a new-year dance, leaving their baby home in the crib alone, to return past midnight and find the baby dead. So far as we know no definite cause was ever ascertained for the death of that baby. It might have been sick and the parents did not know it; it might have smothered itself; or it might have been due to any one of a number of things. The sad occurrence impressed on our mind definitely and for all time the fact that a baby should never be neglected, no matter what the demands of pleasure or business, unless the parent is willing for the baby's life to be sacrificed. Yes, indeed, raising a baby, or running a baby, as the English woman novelist puts it, is a full-time job.

CHILDREN'S FOOD

The Problem of the Mother Who Does Not Know What Food to Give Her Children and Has No One to Tell Her

One of the most serious and pathetic problems that come to the attention of practicing physicians especially is the problem of the mother with young children who is anxious to give her child careful and scrupulously scientific care, and yet does not know how to approach the problem. It is easier for such mothers to learn how to clothe and bathe their children and to manage their sleep and other habits correctly than it is to see that they get the proper food, prepared like it ought to be, and given at the right time.

Several years ago the writer, while a practicing physician, was called hurriedly one evening about supper time across town into a suburb to see a child three weeks old, who was having convulsions. On a hurried inspection, taking in the situation at a look after getting to the patient's bedside, we realized that the trouble was from the digestive tract. Knowing the child's age, we thought it preposterous, of course, that any food should have been given such a very young baby other than its mother's breast, but perhaps thinking that some of the other children in the family had given it a particle or so of food, we began making a

hurried inquiry. Imagine our surprise on being coolly informed by the mother that she had given the child a full-grown boiled Irish potato, with the explanation that as the older children were fond of the potatoes, and it seemed to do them no harm, that she thought it ought to be good for the baby, too. A hurried use of a stomach pump in this instance probably saved the baby's life, and it certainly taught the doctor a lesson which will stay with him for life.

The lesson is that no matter how wealthy or how seemingly intelligent a parent is, it is a good rule never to take anything for granted, and to always give specific instructions as to what each individual baby patient may eat, or what he may not eat. We do not mean by this that it is wise, or permissible even, to fall into the error of prescribing too many intricate and difficult formulæ in the feeding of children, because that confuses the mother and generally is worse than not to be specific at all. We mean that it is necessary in every instance to insist on a baby's having boiled water throughout the summer time for all purposes, and to insist on scrupulous cleanliness and

exceeding care with every particle of the baby's diet, especially through the summer months. If it were possible for all babies to be breast-fed, as nature intended, for the first six or seven months of their lives, the whole problem would be simplified, and the mortality of babies under one year old would automatically drop considerably. But for various reasons it does not seem possible for all babies to have this advantage, and therefore it is left with the attending physician to exercise the greatest care possible. Even when this is done, there are so many babies who are ushered into the world by midwives, and whose parents do not have the advantage of advice from a competent physician, that the problem is a huge

one. Every mother in the country, or in the town or the city, should be urged to procure books or pamphlets when not able to obtain direct advice from a competent physician who knows the family and the family characteristics, and who knows the baby, for the purpose of carefully studying the value and the digestibility of different articles of food suitable for babies. It is not desirable to publish here a long list of don'ts concerning what kind of food ought not to be given, and it is equally undesirable to undertake to broadcast a long list of foods which might be taken. Each individual baby is a law unto itself, and every mother should have competent instruction concerning these things.

SUDDEN ILLNESS OF CHILDREN

A baby or young child can get seriously sick with a suddenness that is alarming. Not long ago one mother complained to a neighbor mother that her little three-year-old boy had not slept soundly for one or two nights, seemed to have a tendency to croup, or something of that sort. The second mother instantly asked her if she had sent for a doctor. The first one replied no, that the child did not seem to be sick enough for a doctor's attention, and she had been applying local external salves, etc., highly recommended for such conditions. At the time the two women were talking, about three o'clock in the afternoon, the child in question was sitting out in the yard playing with other children. At eleven o'clock that night the child died, and the diagnosis of the doctor who was called about fifteen minutes before the child died was laryngeal diphtheria. In such cases as this it is well for doctors and health officers to impress upon parents just a few of the cardinal symptoms of such troubles in order to sufficiently impress on the parents, especially the mother, when it is necessary and safest to send for a physician.

In the first place, while some physicians think the habit a bad one, a majority of the physicians advise that all mothers of small children should have a clinical thermometer and know how to use it. The physician can easily show the mother how to make the

readings; and when the temperature of over one hundred degrees in children persists for many hours, say over night or all day, a physician should be called and a careful examination made. There are many acute diseases which come on with sudden onset. Influenza is one of these; pneumonia is another, to mention only two common respiratory diseases; and the worst cases of diseases, like acute colitis, come with a swiftness that is almost unbelievable to those inexperienced with the nursing and care of children. Now-a-days every child, on reaching the age of six months, should be successfully vaccinated against smallpox. After its arm is thoroughly well from that, it should be given the toxin-antitoxin preventive vaccination for diphtheria; and we hope before many more years a vaccine against whooping cough and a preventive treatment for scarlet fever will be equally as safe and effective.

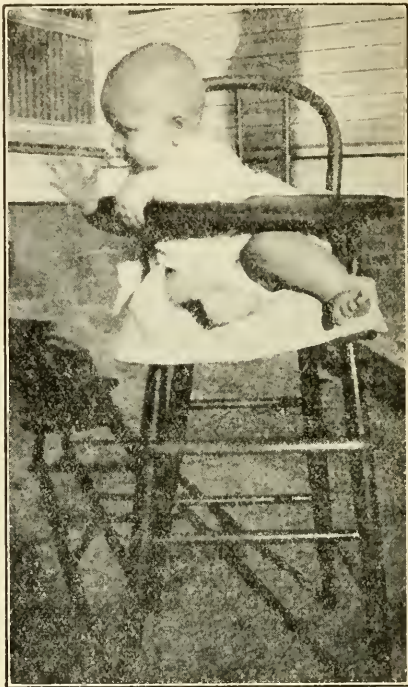
Right now, in the month of May, it is necessary to begin the habit for the summer of boiling all drinking water at least three minutes before giving to babies under two years of age. This should apply to the water that it drinks straight, as well as to any water used to modify milk or other foods in which the boiling is not thoroughly done with the preparation of the food. It is a little bit of trouble, but is a simple expedient that will save the lives of many babies every summer if every

parent in the State would carry it out. It is a procedure that costs nothing except a little trouble, and anybody understands how to do it.

It is not necessary for a mother to become alarmed every time when a baby develops unfavorable symptoms or runs up a little temperature. But it is best and safest to look upon every such occurrence as a possible indication of grave danger just ahead. Children always are more likely to have a rising temperature from insignificant causes than adults. This is, of course, natural. A temperature rise in children suddenly going up to 104 or 105 degrees, especially when being caused from digestive disturbances, will often produce convulsions in a child. In fact, a condition that produces a chill or a chilly sensation in an adult will very often cause a convulsion in a child. It is seldom that a convulsion from such cause proves to be very dangerous; but, naturally, it alarms the average mother much more than a gradual rising temperature, which might indicate the advent of one of the infectious diseases.

In conclusion, in any of the conditions just described, the wisest advice that can be offered is to withhold food, except boiled water, put the child in bed and keep it there, and unless symp-

toms subside, and there is every evidence of prompt improvement after a few hours, send for the best physician available and put the matter up to him.



CATCH HIM!

ARTICLE BY DOCTOR RICHARDSON

We are publishing elsewhere in this issue an article on "Simplifying Pediatric Care," by Dr. Frank Howard Richardson, of Brooklyn, New York. We had asked Dr. Richardson to prepare for us an article on "Diet for the Pre-School Child" for this issue, but as it was impossible for him to comply with this request in time, he suggested the article just mentioned, which we are publishing through courtesy of *The Trained Nurse and Hospital Review*.

While we are on the subject, it will be interesting to a lot of North Carolina people to know that Dr. Richardson and his associates are making a success of pediatric work at Black Mountain, North Carolina, and of the Pediatric Seminar at Saluda, conducted each summer. Dr. Richardson is the author of several books, all of them

pronounced by competent critics to be among the most important and valuable of any books published on the subject. For the convenience of those who would like to have further information on these questions, and are willing to pay for it, the following brief review of Dr. Richardson's books may be helpful:

First. He has a book on "Simplifying Motherhood," with the introduction by Dr. I. A. Abt, an eminent pediatrician of Chicago. This book is published by Putnams, New York, and costs \$1.75. It is a handbook on the care of the baby during the first year of life, but especially emphasizes the importance of breast feeding. This is identically the sort of thing that we have been preaching in the HEALTH BULLETIN for so many years.

Second. "Parenthood and the Newer Psychology." This is also published by Putnams and costs \$1.75. This is a thoroughly interesting book, especially to teachers and parents.

Third. "Rebuilding the Child." This book is a study in malnutrition, has a

valuable introduction by Prof. W. R. P. Emerson, and is just being issued by Putnams this month. The price is \$2. This is a most interesting discussion of the child "not sick enough to go to the doctor," and bridges a very important gap for parents.

RAISING CHILDREN BY PROXY

There are two large classes of people who raise their children by proxy—the people who are on the top of everything and those who are on the bottom of it all—while a pretty large fringe bordering each class also raise their children without much personal attention.

The class of mothers who have to work for their daily bread and the support of their children in their homes naturally do not have much time to look after their babies. It becomes necessary for them to employ cheaper help, which is naturally unsatisfactory and careless; or to leave the children for hours at the time, shut up in the house while the mother is away at work, with an older brother or sister as the only guardian and caretaker.

Most people who have lived in the rural sections know of the custom of most of the colored women who work in the fields, of taking their babies out and spreading a cover on the ground in the shade on a hot day, or in the sunshine on a cold day. While the mother works, the baby sleeps or crawls around on the blanket, but always within reasonable distance of the mother, so that a cry may be heard and immediately responded to. This class of children is, after all, much better off in some respects than the babies of well-to-do people, who are raised by nurses. People of sensitive disposition, in the summer time, daily

have to turn their faces away when on the streets and in the public parks at the acts of positive cruelty generally caused by carelessness inflicted on so many helpless babies. In such cases frequently it is noted by the passer-by that the baby belongs in a home of wealth and luxury, which is indicated by the very carriage he is in, and the clothing he is wearing, and other trinkets, and so on. It is no unusual sight to see the carriage cover down, the baby asleep with its face exposed to the glaring sun; or to see the cover off and the baby suffering on a cold day, while a bunch of nurses, usually colored girls, are interested in many other things, and especially everything except the baby. These sights may be observed on the Capitol Square in Raleigh, in any of the public parks, or on any of the main streets—not only in Raleigh, but in any other city or town in North Carolina, during the spring and summer months. The wonder to us is that more babies exposed to neglect and careless handling are not injured and handicapped in one way or another for life than are.

There are many things to do in many places in order to bring down infant death rate in North Carolina, and a good place for many well-to-do mothers to start would be to adopt a resolution for this summer of *A little less bridge and a little more baby.*

PROGRESS OF DIPHTHERIA PREVENTION

The State Laboratory of Hygiene distributed, during the month of February, 21,909 doses of toxin-antitoxin. Assuming that at least three doses of this quantity were used to a single child, it will be noted that there was enough sent out over the State to practically immunize 7,303 children. This represents rapid progress in dealing

with diphtheria. There are more than 80,000 children born in North Carolina each year, or approximately an average of nearly 12,000 children per month. Thus, we see that enough toxin-antitoxin was sent out to immunize, if used properly, about 60 per cent of all the children born in the State during the month.

As we have stated numerous times in these columns, smallpox and diphtheria can very soon be entirely eliminated from the State, except for an occasional imported attack. It should be a very easy matter to vaccinate each child against smallpox at about six months of age. Just as soon as the vaccination scar heals, which would be completely done within four to six weeks, the child should be given toxin-antitoxin immediately to prevent its contracting diphtheria. By establishing such a routine in every doctor's practice, leading down to every family, requiring the health departments, or in

case where there are no organized health departments in a county, requiring the county physician of such counties to take care of all people who are financially unable to make contact with private physicians, it would not be long before immunization against these diseases would be almost a hundred per cent perfect in the State.

We shall hope to see this progress continued until there are as many treatments of toxin-antitoxin sent out each month as there are children born in the State for that month. Continuing this a few years, this one problem will be solved.

"JIMMY DON'T"

The late Elbert Hubbard said that "Once I met a little boy and asked him, 'Sonny, what is your name?' 'My name,' he answered, 'is Jimmy Don't.'"

Naturally a man with the versatility of Hubbard could write a sermon or a lecture on that reply, and what is more to the point, he did, many of them. The salutation is as old as the history of mankind. What adult among us does not remember when a child being asked countless numbers of times by passing strangers or strangers to us: "Sonny," or "Buddy," or "Sissy, what is your name?" In this instance, Elbert Hubbard received a serious reply, which we are sure from his own statement jarred his sensibilities to the utmost. "Jimmy Don't!" That expressed about all the conversation coming Jimmy's way at home, and we imagine on the streets, or anywhere else. What a world of meaning the answer conveys, a world of trouble and misery for that of one little Jimmy!

The answer given by that boy should cause any parent or teacher who hears it repeated serious meditation. All of us who happen to be parents find it easy to fall into the habit of addressing entirely too many "don'ts" to our children. If two negatives change the meaning of an entire sentence, a whole host of negative orders, such as "don't this" and "don't that," repeated from morning until night, certainly has the effect of nullifying any commands we wish obeyed. The children soon learn to know whether we mean what we say or not, and if we do not mean what

we say, and keep on saying "Don't," the children soon learn not to respect us, and to pay little attention to our authority. Besides, it breeds into a child a defect in his moral fiber which he can never entirely overcome. It will have a tendency to follow him throughout life, and his first impulse when he runs into contact with the numberless laws and rules and regulations and habits and conventions of civil and social government will be a desire to resist the application of all such as applied to himself. Probably few of us ever stop to think how unhappy we can make children by continually nagging them and being after them with so many "don'ts." Ask yourself the question every day as to whether or not your child is informing strangers that his name or her name is "Jimmy," "Johnny," or "Mary Don't." It might be more interesting to you to find out about your reputation in this particular, as exemplified through the child, than a good many other things of less importance.

HOT DAYS

Arriving home from the party, friend wife confronted her husband. "I'll never take you to another party as long as I live," she fumed.

"Why?" he asked in amazement.

"You asked Mrs. Jones how her husband was standing the heat?"

"Well?"

"Why, her husband has been dead for two months."—*Ex.*

SUNLIGHT

The Health Value of Sunlight

"Let there be light" is the oldest prescription ever recorded in the history of the world. Without sunlight there could be no intelligent life on the face of the earth. Sunlight was man's first remedy, and perhaps for long eons of time his only panacea for the ills that beset him. The medicine men of ancient Egypt and Greece built temples to the sun, and unwittingly utilized the then unknown healing properties of the sun's rays. One of the most ancient of religious sects were the Sun Worshipers. To them the sun represented life and power and warmth and com-



BATHING IN GUILFORD COUNTY SUNLIGHT

fort, so why not accord him the attributes of a god? In a changing world, full of natural enemies, the sun represented about the only permanent and dependable friend they had. So what more natural than to worship him? He was giving them life, and what was more, seemed to promise them the fulfillment of their hope of immortality. They came naked into a naked world, these people who were our first ancestors. The sunlight provided them with a coat of tan and a hairy covering for their bodies, so that they could withstand the rigors of winter cold and changing seasons. We know now that it provided them, as it does us, with a peculiar quality of healing power which prevented them from falling vic-

tims to many ills and healed them of others.

Modern scientific study has revealed the fact previously unknown that there are certain invisible rays of sunlight, which they call "Ultra-violet light." It has been definitely proved that these rays, when scientifically applied, have power to cure such diseases as rickets, bone tuberculosis, various skin affections, and other troubles.

There are many kinds of baths. The dust baths of birds and the feathered tribe generally. Pigs delight in mud baths. Wilk ducks chose the clean open water of the marshes, but the tame or barnyard ducks, the civilized ones, prefer the mud puddles. Of all animals, probably cats alone know best how to take scientific sun-baths. All of the lower animals do much sunshine bathing, but it is probable most of them do it because of the warmth and comfort it affords. Not so the cat. He much prefers a bath in the sunshine, although he has to sit on the window sill to get it, to the comforts of a bed on the rug before an open fire. So, who knows but what that characteristic is the cause of the cat being credited with nine lives? For the benefit of the human animal, modern bath facilities are about as elaborate as the Romans are said to have enjoyed a couple of thousand years ago. There are available the tub bath, shower bath, sitz bath, Turkish bath, electric bath, mud bath, and the old-fashioned Saturday night any-kind-of-bath. But, seriously speaking, the sun bath is in a class by itself. It promotes the general health and in many ways is far more beneficial than any other kind of bath. Its value has been demonstrated from times remote. Witness the people who have lived and died a natural death at advanced age who seldom took any other kind of bath; and who almost always enjoyed good health. Their secret has always been that they lived mostly in the open, and wore tanned skins the year round.

There is another relationship between sunlight and health that has recently been discovered. It is the effect of sunlight on the production of certain of the vitamins in foods. Thus, cab-

bage or lettuce grown exposed fully in open fields to the full power of sunlight seem to possess certain food qualities partially lacking in the same plants grown mostly in hot houses or partly under cover. It has been demonstrated that the quality of cow's milk or goat's milk may be considerably affected by varying the amount of sunlight available to the animals. Sun-ripened apples and other sun-dried fruit have always been regarded as superior food.

Taking a Sun Bath

Sun bathing is simple and easy enough, but there are well-outlined methods which must be observed if the greatest benefit is to be derived. There are also definite precautions to take in order to prevent considerable discomfort following. In the first place, sudden and unaccustomed exposure to hot sunshine, as on the beach for the first time in the beginning of the season, will almost surely result in severe blistering and subsequent discomfort and pain, without any resulting benefit. When a patient is sent to a sanatorium where the sun bathing is used systematically, the first thing they do is to accustom the patient to outdoor living. On the first day only his feet are exposed for less than five minutes at a time for probably three or four times at hourly intervals. Each day following the first day's exposure the amount

of exposure is increased, until eventually the entire body, naked with the exception of a loin cloth, is exposed for several hours daily.

In several northern sanatoria it is no unusual sight to see groups of children playing happily in the snow on a sunshiny day. They have no "colds" or other similar troubles.

A very small per cent of the sun's rays are known as ultra violet rays, probably less than one per cent of the whole. The rays are invisible. They are easily taken up by dust, fog, smoke, or moisture. They cannot penetrate ordinary window glass, although it has been recently reported that a special kind of glass has been perfected through which the rays are effective. Unless this special glass is used, it is necessary for the exposure to take place in the open.

The results of proper sun bathing are indicated by the coat of tan, which becomes deeper as health improves, and the process is continued. In just what way the rays are effective is not definitely known. It is thought to be due to chemical changes through which the blood is enriched by the special action of these particular rays of the sun.

In view of the foregoing, it should be clear to the parent and guardian of children that the element of sunshine in the proper growth and nutrition of babies and young children is one of the greatest importance.

OLDER CHILDREN AS NURSES

Not long ago, on account of serious illness in our family, we were compelled to spend an afternoon or two at home. Having to remain about the house gave us an opportunity to observe our own seven-year school boy together with about three neighbors in about the same class. When these youngsters arrived from school and finished the last half of their luncheon, the first half, of course, having been taken at the schoolhouse cafeteria, it was astonishing to us to observe the terrific energy displayed by all of them in getting to their play. Around the house and on the premises for five solid hours, without a particle of interruption, they played. Played jail and policeman, played ball, played

building water mills with dams, and fished, and every other conceivable kind of play, all of it requiring a deal of energy. When night came and the play had to be discontinued for the evening meal and other activities before bedtime these children were nearly exhausted.

The thing that most impressed us was the reawakening of conviction that this process of play on a systematic scale is just as necessary to a child's development and growth, mental and physical, as the food and water he drinks and the air he breathes. Where it is possible to do so the older children, especially the older girls (we are talking about small children, 8 to 12 living in intensive play period), should

not be burdened with too great care and responsibility for looking after the very young children. Everybody has laughed, and many have shed tears and breathed numerous sighs, on looking at the cartoon which appears in some of the papers daily, in which the older boy of the family, about ten, is burdened with the care of his five-year old brother and the baby usually mounted in the carriage. The creator of this cartoon is evidently of the elect. He has visioned the tragedy of many children.

In that excellent publication of the Federal Children's Bureau known as "Infant Care" there is an excellent paragraph entitled "Children as Caretakers." This description is so accurate in our opinion that we herewith publish it in full.

"CHILDREN AS CARETAKERS"

In many families the older children are the caretakers of the baby, and in many cities the girls in the grade schools are taught how to take good care of the baby. Girls thus taught

are, of course, of very great help to a busy mother. But there is danger that the time for play and pleasures which they need in their own healthy growth may be thus used. Mothers should remember that young boys and girls absolutely need a certain amount of free play, preferably out of doors, unless they are to be stunted and weakened, and should see that they are not imposed upon by the too constant care of a baby. They should also remember that a fat baby is a heavy load for anyone to carry, and that the slender frame and tender bones and muscles of a young girl may be easily bent and injured by lifting and carrying a baby. On the other hand, older sisters and brothers may very well learn to look after the baby some part of every day or to take him out in his carriage while the mother has a chance to rest or to go out. When necessary, written directions, for particular care should be left by the mother, but the general rules regarding the baby's food, sleep, and airings should be the common knowledge of the whole family."

SWIMMING POOLS AND SANITATION

This is the season of the year when swimming pools are being opened in almost every one of the large towns and cities of the State. These places are becoming more and more popular as places of recreation, and hence with the increasing population and ease of travel from one place to another it is more important than ever that correct principles of sanitation be applied in the conduct of each one of them. Under the above heading the New York State Department of Health, in a recent Radio Health Talk through its Health News Service, issued the following statement, which is just as applicable to North Carolina as it is to New York State:

"No one with a cough, cold, infected eyes, ears or skin or any other infectious disease should use a public swimming pool, is the advice of Mr. Arthur S. Bedell of the Division of Sanitation of the State Department of Health. This statement was made in a health

talk broadcast Friday night from Station WGY.

"'Like the little red school house on the hill,' said Mr. Bedell, the old swimmin' hole is rapidly becoming a joy of the past. The modern drift from the country to the city, the automobile, the depletion of many of our smaller streams and the increasing pollution of the waters adjacent to our larger communities have all had a part in creating a need for artificial swimming pools. The ever increasing number of these pools and the heavy patronage by the public have developed a public-health problem that should be given due consideration by local public health authorities.

"'As a means for providing healthful recreation for large numbers of people, the swimming pool is taking first rank in civic life for swimming is one of the most healthful exercises. The co-ordination of all the muscular activities of the body with deep breathing

produces a wonderful sense of exhilaration and well being.

"In making use of these public or private institutions, citizens have a right to assume that all due precautions for health and safety have been taken by those in charge. Is this faith justified in your community? Scum gutters, a circulating water system provided with filtration and sterilization apparatus, specially designed inlets and outlets, and a vacuum cleaning apparatus, when properly designed and utilized, should maintain the water and the pool in a safe sanitary condition for your use. If bathing suits are used they should be of undyed, lintless material. If you use suits provided by the pool management, be sure that they are laundered and sterilized before each use.

"The modern artificial swimming pool is no longer a mere tank filled

with water. Great care is now taken in the design and construction. The use of a white tile lining facilitates cleaning and increases the pool's attractiveness and safety.

"A swimming pool is a place for recreation and not a bathtub to cleanse the body. Shower baths and toilet facilities are provided at all indoor swimming pools and the suitable use of these by the patrons is essential in swimming pool sanitation. No one suffering with a cold, cough, infected eyes, ears, or skin, or *any other* infectious disease, should use a public swimming pool.

"A swimming pool offers you at all seasons of the year the pleasures, without the dangers, of the old swimmin' hole. Make the most of it but do not endanger the health or safety of your fellow citizens by any thoughtless act or disregard of sanitary regulations."

CAUSED A DOUBLE TRAGEDY

Not long ago people throughout the country were shocked to read on the front page of nearly all the daily papers an account of a pathetic tragedy which occurred in Brooklyn, New York. The father of a family of several children, and a poor man, brutally murdered a physician who had been called to treat his child for diphtheria. The child had died and the father had blamed the doctor for its death on account of the fact that the doctor had administered antitoxin. The whole trouble arose from the fact that the father had waited a week after the child got sick and when it was beyond help at the hands of any doctor before calling for the assistance of a physician. There is no use to moralize on these things, and the chief reason we have for writing this paragraph about the case is to emphasize the necessity for every parent of small children making a serious effort to have such children immunized against diphtheria through the administration of toxin-antitoxin this summer. Under the above heading the New York Health News publishes the following interesting article about the Brooklyn tragedy.

"The murder of a Brooklyn physician by a frenzied father when he

found his child had died while under the doctor's care was recently chronicled in the newspapers of the country. But beneath the heart throbs which gave this story front page value there are several facts which ought to be brought forcefully home to every parent in the State.

"The parents of the child, according to all accounts, waited for over a week before seeking advice. Then, instead of calling a physician, the father asked a drug clerk to sell him some medicine for a sore throat. The latter, probably suspecting the nature of the illness, convinced the father that a doctor was needed, and aided him in finding one. From the accounts printed it appears that the disease was quickly diagnosed as diphtheria and antitoxin given without delay but too late to save the life of the child. Crazy by the death of the child and fancying that the treatment instead of his own delay was responsible, the father killed the physician after a terrific struggle.

"The outstanding lesson which parents should learn from this occurrence is that if the child had received toxin-antitoxin last summer he would not have contracted diphtheria or at most would have had only a mild type of the disease. A double tragedy would thus have been averted."

SOME IMPORTANT FACTS ABOUT DIPHTHERIA

By CHARLES R. BUGG, M.D., Raleigh, N. C.

Diphtheria is a preventable disease and should be as rare as smallpox. There is practically no reason for the disease existing today, and its disappearance will quickly follow if the public will forsake the attitude of slight suspicion that it sometimes attaches to new procedure and preventive measures.

Toxin antitoxin has long ago passed the experimental stage. It has been proved to be a most efficient preventive measure and should be as routine a procedure as smallpox vaccination. Proof of its efficacy is abundant. Dr. Sears of Auburn, N. Y., reported the result of a campaign there and found 90-94 per cent of the children immune to the disease after 3 doses of toxin-antitoxin. Park and Zingher in New York City report 60 per cent reduction in incidence and mortality. They injected 500,000 children. Dr. Zingher is convinced that 90 per cent of people are made immune, probably for life or certainly tided over the susceptible period. A practical plan of procedure is to give 3 weekly doses of 1 c.c. each to all children between 8 months and 5 years, and to do Schick tests on all children over 5 years, with toxin-antitoxin given to all susceptibles. Where it is impossible to do Schick tests or where it is not practical, 5 weekly doses is the wise procedure and the percentage of those immunized will be distinctly higher, probably 100 per cent.

There is some confusion in the mind of the public between toxin antitoxin mixture and diphtheria antitoxin, and the action and principle of each. It is really very simple and easily understood. The first false impression is that toxin antitoxin produces a mild form of diphtheria which may in some cases be dangerous. This is absolutely not true. There is a very minute amount of unneutralized toxin, or poison of the disease, in toxin antitoxin. This is too minute to produce any disease or symptoms, but does

call forth the production in the body of self-made antitoxin which remains in the body permanently, or continues to be produced over a long period of time. Antitoxin is the blood serum of a horse who has been made to produce this resisting substance in his body. It quickly immunizes susceptible people to the disease, and quickly cures the disease. Its effect is short in duration—probably 3 to 5 weeks, for the human body does not retain the horse antitoxin longer than this. The immunizing effect of toxin antitoxin is permanent, for it stimulates the body to produce its own antitoxin, and this production continues for a long period of time. The immunity from toxin antitoxin is slow in developing. It is probable that there is little development of immunity until 2 to 3 months after the last injection.

The Schick test is a very reliable one, and it is quite rare for a person with a negative Schick test to contract the disease. Both the Schick test and toxin antitoxin are absolutely devoid of all danger, and any symptom following their use is rare and always negligible.

The susceptibility to the disease at different ages is interesting and important. Dr. W. H. Park of New York gives the following figures:

<i>Susceptibles</i>	<i>Per Cent</i>	
	<i>Country</i>	<i>City</i>
Under 3 months.....	30	15
3 to 6 months.....	50	30
6 months to 1 year.....	80	60
1 to 2 years.....	85	70
2 to 3 years.....	75	55
3 to 5 years.....	70	40
5 to 10 years.....	65	30
10 to 20 years.....	60	20
Over 20 years.....	50	15

In short many more people living in rural districts are susceptible; there is a relative immunity up to 5 or 6 months; and there is a tendency to immunity as age advances. The most

susceptible age is 6 months to about 6 years. This is therefore the age where artificial immunization is most important. This is the "preschool age."

Toxin antitoxin is a certain preventive of diphtheria and in addition it has another feature that is frequently not thought of. This is the saving of mental anguish. Whenever a case of diphtheria occurs it carries with it inevitably a state of anxiety in the minds of the parents of all children who have been exposed, or possibly exposed. If the exposed child has had toxin antitoxin in the past there is no need for anxiety and the feeling of security is worth much.

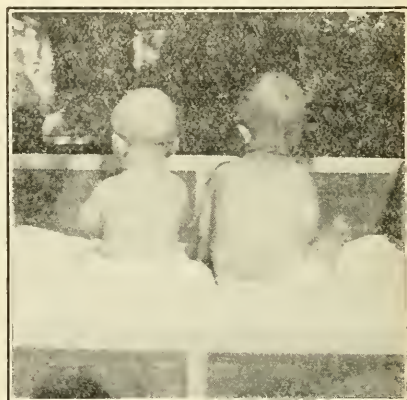
The local inflammation in diphtheria is a minor consideration as compared to the danger from the circulating poison of the disease. The exception to this is membranous croup or laryngeal diphtheria. Antitoxin's first effect is to neutralize the circulating poison as fast as it is produced in the throat. Its secondary effect is to cause the subsidence of the throat inflammation. *Antitoxin cannot affect the toxin or poison that has combined with the tissues before antitoxin was given.* This damage has been done, and cannot be undone by any amount of antitoxin. The poison has a special tendency to attack the heart muscle and the nervous system—producing often severe damage to heart function and widespread paralyses. Both of these effects of the toxin are often fatal. No damage to heart or other tissues ever takes place *after* an adequate dose of antitoxin is given, but enough damage may have been done *before* it was given to produce serious results. For this reason the time element in the administration is the one most important consideration. 10,000 units on the first or second day of the disease is worth ten times as much as 40,000 or 100,000 given on the fourth and fifth day or later.

There are certain special practical features about antitoxin that deserve mention.

(1) Alarming immediate reactions are rare, and occur most frequently in people with a history of asthma. Adrenalin chloride given hypodermically is the most valuable drug to combat this reaction.

(2) Paralysis following diphtheria occurs in those cases where antitoxin has been given late, or in cases where the diagnosis of diphtheria was not made and the patient made a spontaneous recovery.

(3) There is no such thing as paralysis or heart damage due to antitoxin. If either of these occur it is due to the toxin of the disease. The statement that paralysis occurs more frequently in cases where antitoxin is used is true in the sense that most of those who do not receive antitoxin do not live long enough to become paralyzed.



BACK TO BACK, ANSWERING MORNING ROLL CALL

(4) Serum sickness, which sometimes follows the administration of antitoxin in 5 to 10 days, is uncomfortable and sometimes distressing but never serious and is a very minor consideration as compared to diphtheria itself. Those cases that show localized swellings, known as angioneurotic edema, should be under the physician's close supervision and will respond well to adrenalin chloride hypodermically.

(5) Antitoxin should be given in one dose, early, and intramuscularly. Second doses are rarely necessary.

By intermuscular administration, one saves 12-18 hours as compared to subcutaneous administration. This saving of time may mean saving of life.

Laryngeal diphtheria presents a problem in mechanical obstruction and a predisposition to pneumonia, rather than a problem of toxin absorption. Ab-

sorption of toxin from the larynx is very slow and incomplete. Many feel that less is absorbed in laryngeal than in nasal diphtheria, which is, of course, a very benign form of the disease. Therefore antitoxin in laryngeal diphtheria, not associated with pharyngeal diphtheria, is given largely for the local effects. Its action on the local condition is slow and not spectacular. Except when given very early, not much change in symptoms can be expected under 18-24 hours.

Laryngeal diphtheria frequently occurs without membrane on the throat. Throat cultures will be negative in at least 50 per cent of cases of laryngeal diphtheria without visible pharyngeal membrane. The outstanding points about laryngeal diphtheria are: its progressive character without improvement in the daytime; loss of voice and fairly early definite dyspnea—all of these things being in contrast to spasmodic croup and acute catarrhal laryngitis.

Any case of laryngitis or croup that shows little tendency to improvement in the daytime, that is associated with loss of voice or difficulty in breathing is a potential case of laryngeal diphtheria and should be watched most carefully and antitoxin administered if there is any progressive character to the symptoms.

The parents of all children should know the outstanding points about this condition, and many lives will be saved if parents will have medical supervision for these cases *early*. Where the

difficulty in breathing has become marked, the child should be placed where there is someone who can introduce a tube into the larynx if necessary, for this is a life saving measure and without it many will die before the effect of antitoxin can relieve the obstruction.

Any persistent, excoriating nasal discharge should suggest to the physician that he is dealing with a case of nasal diphtheria, and this will almost certainly be the case if at any time the discharge is tinged with blood. Nasal diphtheria is almost always unaccompanied by any constitutional symptoms and is therefore usually overlooked. The condition is important largely because a large percentage of the cases of clinical diphtheria we see contracted the disease from this type of unrecognized carrier.

Summary:

(1) Diphtheria can and should be stamped out by the use of toxin antitoxin.

(2) Antitoxin cannot undo damage that has been done by toxin absorbed before it was given, and should therefore be given without delay, intramuscularly, and all in one dose.

(3) Laryngeal diphtheria is a progressive laryngitis and frequently occurs without visible membrane, and a negative culture means very little.

(4) If nasal diphtheria were recognized more generally we could remove one of the most important foci of diphtheritic infection.

SIMPLIFYING PEDIATRIC CARE

By FRANK HOWARD RICHARDSON, M.D., Brooklyn, N. Y.

The time has gone by—if indeed it ever existed—when being involved, cumbersome, and intricate could be mistaken for being scientific. It has been charged against the pediatrician that in many cases he has made infant feeding such a difficult, involved affair that folks of ordinary means and with but an ordinary amount of time could not afford to avail themselves of his servi-

ces in any but the most serious cases; and then only until the emergency was over. We are coming now to realize that it is the duty of the pediatrician, and of his right-hand-man, the professional nurse, who specializes in the care of infants and children, so to simplify the manifold important details that go with the care of their charges, that it will be not only good

health but good economics for every mother to avail herself of their services.

The mother who leaves the office of the children's doctor or the baby health station presided over by a trained nurse, without having learned to simplify her task, is a serious challenge directed against the efficiency of these agencies. Both doctor and nurse must educate as well as prescribe—must inculcate principles of self help as well as preach blind, unobserving obedience—if they are to prove of the highest possible value to the community which they serve.

This article on the simplification of the innumerable things that go to make up the minimum standards of satisfactory care for the first year of the baby's life, is written with this belief firmly in mind. The opposite conception, once boldly stated and still occasionally subscribed to, that after three years of specialized study and training in observation, the professional nurse shall be nothing but a tool in the hands of the physician, without whose express command she must do nothing, teach nothing, say nothing, think nothing, is too absurd to take time even to refute. Such a position is in itself the negation of the need for the profession of public health nursing. Unless a nurse is willing to accept the responsibilities that go hand in hand with her position, and fit herself to teach her clients to think for themselves by applying the principles taught them by their physicians, rather than to hamper them by inculcating a slavish, unreasoning dependence upon the doctor for the interpretation of every minor incident that occurs in the baby's life, she cannot consider this inspiring and wonderful development of the field of nursing for herself.

How then shall the nurse simplify the task of the mother, so that it will not be unbearably difficult for her. In the first place, by inculcating the simple principles of prenatal care such, for instance, as are so clearly laid down in the pamphlet published by the Maternity Center Association of New York, the New York State Department of Health, the Chicago Health Department, etc.—she can make it highly probable that the mother will

come out from her confinement and delivery rested rather than wrecked by the trying though perfectly physiological experiences she has passed through. If, further, she has herself become thoroughly grounded in the principles underlying the establishment and maintenance of successful maternal lactation, and has sufficiently impressed upon the new mother the possibility as well as the desirability of her feeding her baby upon breast milk, the only thoroughly satisfactory infant food that there is, she will have eliminated from the horizon of her client the whole bugbear of artificial feeding. This alone will constitute a priceless bit of simplification, as any mother who has ever fed her baby on formulas can testify. The details of artificial feeding, if this is undertaken, need not be gone into here as they must be adjusted by the individual physician. It is encouraging to see, however, how doctors are increasingly turning toward the simple dilutions of whole milk, and getting away from the cumbersome, involved, and impressive but by no means more scientific formulas of the olden days.

Another condition especially observed by those who advocate the use of lactic acid milk and by those who are interested in promoting breast feeding, is the almost complete elimination of the old-fashioned "colic." The principle must be grasped, however, that the healthy baby never overeats and that so-called colic is a pain of hunger or temporary discomfort or pressure due to an air bubble in the stomach (which is adjusted mechanically by holding the baby over the shoulder). Revolutionary as this may seem to one trained, as the writer was, in the pediatrics of twenty or more years ago, it is easy to understand and still easier to apply. When one has seen so-called "colic" disappear time and time again when a baby is allowed to take his fill of whatever food is being given him, without any of the dire results that we used to be taught were sure to follow such eating to repletion, it is not difficult to gain converts among doctors, nurses, and mothers, to this satisfactory, humane method of feeding babies.

The Bath

The bath can and should be simplified, if the baby's best interests are to be conserved by the mother and the nurse. Instead of an elaborate layout for the morning toilet, with cotton-tipped toothpicks galore, boric acid bottle, gauze or cotton pledgets, and an over-heated bathroom, a much more sensible regimen now prevails. The overheated bath-room would be quite necessary if a baby were to be exposed for several minutes and soaped and scrubbed before being put into the tub; it is quite unnecessary when a quick immersion into the tub of warm water immediately follows a swift re-

the whole body with the soaped wash-cloth in the tub, following the cleansing of the baby's face with unsoaped cloth, also while he lies at ease in the bath, with water up to his neck.

We also learned that it was dangerous and unnecessary, rather than beneficial, to explore the delicate little orifices of external auditory canals and anterior nares with cotton-tipped toothpicks dipped in boric acid solution; the dictum "nothing smaller than the elbow is to be inserted into nose or ears" being sound pediatrics. As to that other time-honored custom, washing out the mouth with boric acid on the cotton-draped finger, present-day science has again intervened and we are today much more afraid of the production of tiny abrasions in the delicate mucous membrane of mouth and gums, that might follow even carefully carried out maneuvers, that we are fearful of the inability of the natural secretion of the mouth to take care of any cleansing that is necessary. Washing out the eyes with boric acid solution is another manipulation that is being dispensed with in the up-to-date maternity hospitals, some obstetricians feeling that washing normal eyes with even so mild a solution as we have always considered boric acid to be, may cause instead of allay irritation.



TWO OF GREENSBORO'S FINEST OUT FOR THEIR MORNING CONSTITUTIONAL

moval of the imperatively few clothes that the properly clad baby needs. Once or twice a week a shampoo may be indulged in (rather than the daily oil-banishing scalp rubbing that we used to be taught was necessary for the baby, though we knew that our own scalps could not possibly have stood such rash treatment). This quick shampoo can, of course, be done best while the infant is in the tub; and so need not be done in the overheated bath-room as was necessary when it formed a part of the ritual that was carried out before the baby was immersed in the tub. The preliminary soaping which used to subject the delicate skin to the harsh action of soap is likewise replaced by the washing of

The Clothing

The dressing of the baby has been rendered easy and quick by the fact that the clothing is less elaborate than used to be thought necessary. The abdominal binder or band is now dispensed with, except for so long a time as it may be necessary to serve as a bandage retainer for the umbilical stump dressing. The sleeveless "bands" are, of course, nothing more or less than shirts; and these are best dispensed with. Neither they nor the old flannel binders or "belly bands" once considered indispensable are now used except as a reminder of the more elaborate older custom, and if they are not useful, they are certainly undesirable. The shirt, once silk and wool, is now of cotton, according to the wishes of many pediatricians, who reason that if a fullgrown man or woman frequently finds that his skin

will not stand the irritation of wool next to it, it is hardly wise to expect that the far more susceptible skin of the infant will be more resistant. Where once "prickly heat" was considered a visitation of divine Providence that must be put up with it is nowadays looked upon as a reflection upon the judgment of the adult in charge, who has subjected the infant to clothing conditions.

One other way in which the care of the baby can be immensely simplified is by the use of the three protective inoculations which can be definitely, positively and safely recommended for all babies before the end of the first year. We refer, of course, to immunization against smallpox, typhoid, and diphtheria. It would seem quite unnecessary in this day and generation to mention these three, much less to defend the advisability of using them. Yet we know that many a child goes unprotected against all three diseases for years, when he might at little cost, less discomfort, and no risk, be made quite safe from them. These things ought not so to be; and the nurse who is doing her full duty, and the doctor who is mindful of his, will try their best to protect the children which come under their care.

Isn't this making the scientific care of children so simple that every one can be his own doctor and trained nurse? Would that it were; and that those of us whose lives are devoted to the care of children could so dis-

charge our duties that we would work ourselves out of a profession. Unfortunately, there is no immediate hope of such a consummation so devoutly to be desired. Anyone who has had anything to do with the care of an infant at first hand knows that points will always come up about which there can be no generalized rules and regulations; these will require the individual attention of doctor and trained nurse. We also know that, simplify as we will, there are always enough things to be done by the mother during the twenty-four hours that make up the crowded eventful day's work, that the mother's task can never be made a very easy one, do what we will. But the doctor or the professional nurse who can make it any easier, and so aid in the execution of the duties of a mother's day that she may carry them out without becoming, as so many mothers are, constantly overtired and exhausted, will be aiding in the care of the child in still another way. He will be doing his best to insure that child, and every child who profits by his effort, the quiet, calm, sustaining mental atmosphere that can never exist in the home where the mother is never rested. For the maintenance of a calm, happy background is needed during the critical first six years of life when the main character trends are becoming set in moulds that will be retained through life.—*Trained Nurse and Hospital Review.*

THE TRAGEDY OF ODOUS AMELIAS

By EUGENE B. HOWLE, M.D., D.D.S., President N. C. Dental Society

I came into this world as a lower central incisor in the mouth of a little girl about five years old. It was many years later through a chain of horrible circumstances which I shall try to describe that I came to be known as Odous Amelias (Oulomenos) which, freely translated, means "A tooth which has been sacrificed on the altar of neglect."

I found myself in a wholesome, healthy environment surrounded by

beautiful, pink gums and bathed by pure, clean oral secretions. My development was rapid. I soon became big and strong and firm and it was a joy to realize that I had been endowed with those characteristics which would enable me to perform with ease and comfort the duties for which I had been by nature designed. Life was a wondrous thing. Many happy years slipped by so peacefully that I had not yet come to realize that my host

was no longer a little girl, but a grown young lady.

And then one day (a day I shall never forget) I noticed a peculiar thing in the gingival crevice about my neck—a small gelatinous area in which were entangled bacteria and a slight deposit of calculus. I had never heard of these things before and yet through instinct. I suppose, an intangible fear possessed my very being. I was very much alarmed. It was only a short time, however, before my host made a trip to the dentist who inserted some small fillings in other teeth, but paid no attention whatever to the condition about my neck. So, my fears were relieved for “Surely,” thought I, “if this condition were of real importance, the dentist would certainly have taken note.” I dismissed the whole thing from my mind and again life became merely the happy passing of joyous days.

It was probably a year before the matter returned to my mind again and then I realized that the size of this plague had increased and more lime salts had become deposited and a strange thing had taken place. The beautiful pink gum around my neck was bordered with a narrow zone of a more reddish color. Another trip to the dentist. More small fillings, but no attention to the condition about my neck. “Surely it is all right,” thought I, but worry is not thus lightly dismissed.

Another year passed. With increasing alarm I noticed that the deposit had grown still larger, the red border of the gum had extended and the gingival crevice about my neck had, ever so slightly, deepened. Another trip to the dentist. Condition still unnoticed.

Then two or three years passed. My spirits were very low for I began to realize what was taking place. The deposit of calculus had grown considerably; the gum was now quite red and a little puffy and slight hemorrhages were very frequent; the gingival crevice had deepened perceptibly. And now, my host took note, perceived the bleeding of the gums and finally became very much concerned. My spirits went soaring again. This terrible condition had at last been found and at a time when irreparable damage had not already been done. And then again we were on our way to the dentist be-

cause my host had heard of Pyorrhoea and she was very greatly frightened. I who had trembled with fear for months cannot describe the beautiful sensation sent coursing through my veins by the thought that I would soon be restored to health and happiness.

The condition was soon explained to the dentist, also my host's fear of Pyorrhoea. The dentist, his examination made, smiled gently to himself and thoughtfully shielding his patient from further alarm explained that this was not Pyorrhoea because there was no pus. It was only a trifling matter of some tartar which could be quickly scratched away.

It is unbecoming that I should dwell too long on my misfortunes which soon will end. I try to feel that there is no animosity in my heart for the dentist who, through either neglect or ignorance, scratched a little tartar off my neck when the gingival crevice began to deepen, who year by year scratched a little more or ignored the condition entirely while the alveolar wall was becoming absorbed and the gingival crevice becoming deeper and deeper till finally after a period of eight or ten years a secondary infection of pyogenic organisms took place and pus began to flow and who then at last approached his patient with a superior air of boundless wisdom and announced with great profundity, “Madam, you have Pyorrhoea.”

A stranger had come to town and it became rumored about that he was a specialist and could cure Pyorrhoea. So my host made a visit to him.

“Doctor,” she said, “I am told I have Pyorrhoea; can you save my teeth?”

“Madam,” said he, “there is no such thing as Pyorrhoea. You certainly have Riggs Disease* in its very last stage; but I cannot save your teeth. I am sorry, indeed, that you could not have come to me about ten years ago.”

And now, about to pass on to the great beyond, I tell my story not with malice but with the hope that other central incisors may, by timely treatment, be spared the suffering and despair which have fallen to my lot and thereby make some host the happier.

* Periodontoclasia.

MILK, THE INDISPENSABLE FOOD FOR CHILDREN

By DOROTHY REED MENDENHALL, M.D.

GRADES OF MILK

In city or country the quality of milk, whether raw, Pasteurized, or canned, as it reaches the consumer, depends largely on the quality of the original milk. Therefore supervision and control of the source of supply are of the utmost importance. The production of clean, pure cow's milk of good quality and low bacterial content depends on the feeding, health and

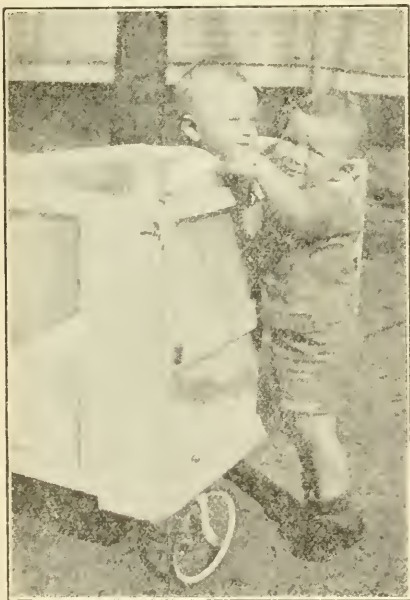
first steps necessary in the protection of the public food supply.

All market milk should reach the consumer within 48 hours after it is produced, for changes affecting its nutritive value and its purity are likely to occur as time elapses. Surprisingly little emphasis is usually put on the differences between stale milk and fresh milk, though it is obvious that milk dried or canned within a few hours after it is drawn is in a sense fresher than so-called fresh milk which may actually be three or more days old. Certified milk is supposed to reach the consumer before it is 24 hours old.

In large cities, or wherever else it can be obtained, certified raw milk or milk of grade A quality that has been Pasteurized should be purchased for infants. In small cities, if the milk is not graded, information regarding dairies may be obtained from the local board of health. In towns and small communities a visit to the dairy should be made by the householder personally. Bottled milk should always be used, as "dipped" milk, dispensed from a large container, is an unsafe food for young children. When milk is used on the premises where it is produced it should be kept in sterilized bottles or jars. The essentials of the care of milk both in the dairy and in the home are to keep it clean, cool, and covered.

In general only the milk of a tuberculin-tested, healthy, well-cared-for herd or single cow should be used. Herd milk tends to vary less in its character than the milk of a single cow, and is preferable for infants if other conditions are equal. Milk relatively low in butter fat is generally better for infants, but the removal of 1 or 2 ounces of cream from the top of a quart by means of a cream dipper easily adapts milk of high butter fat content for their use.

It is very difficult to obtain a constant supply of raw milk in a state



WILLING ASSISTANCE GRATEFULLY RECEIVED

cleanliness of the cow—the cleanliness and health of the milker, and clean utensils; the use of the small-mouthed milk pail; prompt, efficient cooling of the milk and constant refrigeration until the milk is used.

Grading of milk, based on dairy scores and bacterial count, which has become universal in cities having the best milk ordinances, is one of the

suitable to be fed to an infant, for, even under the best conditions, any milk may become contaminated accidentally. Milk fat to be used raw must be produced under conditions which insure rigid scientific inspection of the dairy, the cow, the milkers, and the utensils and supervision of the care given to the milk and which allow the milk to be used in a relatively short time after it is produced. Certified raw milk can be obtained in large cities, but only at a price prohibitive except to families with incomes far above the average. In large cities—where milk has to be furnished to thousands of infants, where it has to be supplied from a large number of dairies of all sizes so that adequate inspection is difficult, and where it has to be transported long distances and kept for a long time—ordinary raw milk is not a safe food for infants. All milk of any grade should be scalded, cooked in a double boiler, or boiled before being used for infants, in order to destroy the germs ordinarily found present in milk.

Pasteurized Milk

As we have said in the foregoing chapter, the ordinary raw milk supplied to cities and towns is not a safe food for infants and children. Pasteurization of most of the milk, therefore, becomes a necessity. Such general Pasteurization of milk does not eliminate the need for great care in the production and handling of milk, but it provides an additional safeguard for milk which must be transported long distances. Pasteurization of milk does not justify the use of filthy milk; neither does it take the place of heating milk again before its use by infants. But in some small cities and towns the condition of production are so insanitary that Pasteurization is doubly necessary if the milk is to be used for children. Pasteurization should be regarded as an additional factor of safety in caring for clean milk and not as a cloak to cover dirty milk. Pasteurization is the best method at present available for obtaining safe milk on a large commercial scale. Most public-health authorities consider Pasteurization necessary in order to prevent milk-borne epidemics of disease.

When milk is Pasteurized it is generally heated to 145° F. (about 63° C.) and held at this temperature 30 minutes. This process when done by the best commercial methods destroys a large percentage of the bacteria in milk and considerably delays its souring. Vitamin C and the calcium salts of milk are thought to be affected adversely by Pasteurization. The important result of Pasteurization is that if properly done it kills any disease germs present, such as the germs of tuberculosis, diphtheria, typhoid fever, septic sore throat, or scarlet fever. For this reason to render milk a safe food Pasteurization is carried out to some extent in the majority of United States cities of 10,000 inhabitants or more, and 90 per cent or more of the milk that is used in the 12 largest cities is Pasteurized. The average cost of Pasteurizing milk was estimated in 1913-14 to be 0.313 cent a gallon. Pasteurized milk is not sterile, and it will not keep unless quickly chilled and kept chilled until used; and for children it should be used within 36 hours after being Pasteurized. More general supervision by State and municipal authorities of Pasteurization of milk would tend further to eliminate defects in the apparatus and methods employed and to give the public a good and uniform milk supply.

Even when milk is produced under apparently perfect conditions the possibility of bacterial contamination cannot be eliminated. Epidemics are frequently reported in which the infection has been traced to a single dairy, even to a dairy which came up to the highest requirement for milk production, and occasionally to a dairy where the milk was Pasteurized, though "no epidemic of disease has ever been traced to properly Pasteurized milk." Furthermore, transporting and keeping milk increase the danger of bacteria's multiplying to a dangerous extent before it is used.

For these reasons the scalding, cooking in a double boiler, or boiling of milk sufficiently to insure the killing of bacteria ordinarily present, is now generally considered a wise precaution to be taken in the home before young children are fed milk either raw or Pasteurized, even of grade A quality.—*Children's Bureau, Washington.*

RABIES

Tragic Account of Death from Hydrophobia Reported by Mountain Physician

Last December Dr. W. Burdett Robertson of Burnsville, North Carolina, reported the death of an eleven-year old boy as occurring under rather unusual and tragic circumstances. The cause of the death was reported as being hydrophobia with smallpox as a contributing cause. We wrote to Dr. Robertson for any further information about this particular tragedy. Dr. Robertson very kindly has supplied us with additional information which he consents for us to use.

The boy who died had always been frail, and therefore in the various efforts at vaccination in the community he had been excused on account of his ill health. He lived on a farm near Burnsville with his parents and had a history of not being able to play but a short while before becoming tired out and nervous. His father reported that the child had not been able to do but little in performing his share of duties on the farm coming to every farm boy. Being exposed to smallpox, he contracted the disease and had not fully recovered from this when he was badly bitten by a rabid dog on the left wrist and arm. The dog had gotten the boy down when the father knocked the dog down with a board. The father, thinking he had killed the dog, kicked him under the bank of the road and went in to dress the wounded boy. On coming out of the house later he noted that the dog was making efforts to get up, not being dead as the father thought. Therefore the father got the shot gun and shot the dog in the head. The dog's head was sent to the State Laboratory of Hygiene immediately, but the brain of the dog was so mutilated that a satisfactory diagnosis could not be made. However, Dr. Robertson felt sure that the dog was rabid, and on the seventh day after the child was bitten he started the anti-rabic treatment and the boy had taken thirteen treatments when he became very nervous and developed, what was in Dr. Robertson's opinion, a clear-cut case of hydrophobia, dying about four days later, or on the twenty-fourth day after

he had been bitten by the dog. Dr. Robertson thinks that it was possible that, on account of the child's weakened condition occurring from the severe attack of smallpox, the boy might have developed rabies and died more quickly than if he had been well and strong at the time. While the laboratory test was unsatisfactory as aforementioned, another dog bitten by the same dog on the same day that he bit the boy developed rabies and died. The boy did not show any signs of paralysis as, of course, sometimes in rare cases may happen from the treatment, but was just the opposite condition. In other words, he developed what may be called Furious Rabies and had to be forcibly restrained until death relieved him from his sufferings.

Naturally the death of this boy under such circumstances was a very unusual and rare phenomenon, but it affords interest from many angles. In the first place it illustrates the necessity of vaccinating every human being against smallpox, excusing no one except dead people, if smallpox is to be eliminated from the State of North Carolina, as can easily be done. In the second place it illustrates again, if such illustration were necessary, the importance of drastic control of strolling, roving, stray dogs.

In concluding this report, for the information of many people who have never seen a rabid dog, we are publishing a very interesting description from the bulletin of the Provincial Bureau of Health of Montreal, Canada.

"Rabies may take the form of Furious Rabies or Paralytic Rabies.

"The principal symptoms of Furious Rabies are the following: The dog appears subdued, restless and distracted. It seeks dark and isolated places, and is slow to come to the call of its master. At this stage, it is difficult to determine whether or not it is a case of Rabies, but Rabies must be suspected, for this change of behavior is an indication of beginning Rabies and it is very essential, at this time, to recognize that the animal may be dangerous and may

communicate the disease. The dog may continue to eat and drink. But it soon becomes restless, frequently changes position, scratches in the earth, apparently harkens to imagined noises, crouches in wait for invisible enemies, is possessed of hallucinations, jumps, snaps at the air, becomes increasingly active, no longer knows its master, suffers spells of fury and has an evil look. If shut up, it bites furiously at the bars and splinters the wood of its cage. If at large, it seizes on carpets and articles of clothing, tears them to shreds, swallowing some of the fragments; breaks, tears and attempts to eat everything in its way, scratches the sore made by the dog which inoculated the disease, and violently bites away the skin in this region.

"At other times, contraction of the pharynx may prevent drinking; efforts made to drink, while in this condition, simulate those when a bone is lodged in the dog's throat. Its bark is a peculiar hoarse howl followed by a sharper cry; this is a sure sign.

"At the beginning of this period of excitation, if the dog has not been chained, it will try to escape, to leave its master and persons to whom the animal has been affectionate. With its tail hanging low, its jaw covered with

frothy saliva which it cannot swallow, the dog runs straight away without a stop, and never scents objects in its path. If it meets another dog, even of much larger size, it approaches without hesitation, then suddenly without a cry, in a surprise attack, leaps usually at the neck or head of the other dog, and with apparently no animosity proceeds on its way. If it approaches a horse, cattle or even a man it leaps without a trace of hesitation and bites cruelly but never tarries.

"It continues its course of destruction through rain and cold, without food, to finally die, after traversing some 10, 20, 30 miles, in some ditch or isolated corner, when overcome by paralysis. Such a stray dog constitutes a real terror. Many dogs, infected by the rabid animal, will set out to cause the same destruction. Thus one rabid dog may spread the disease throughout an extended area.

"The above symptoms do not always appear in the so-called Paralytic Rabies. The period of excitation is of short duration and may be entirely absent, paralysis appearing at the onset of the disease. In this case, the evolution of the disease lasts three or four days."

STUDENT PHYSICAL HEALTH REVEALS INFANCY NEGLECT

**Having Poor Health Habits, Ninety Per Cent of College Students
Are Not in the Condition That Should Be Found in
the Flower of Our Youth**

By GEORGE T. STAFFORD,

Assistant Professor of Physical Education, University of Illinois

Childbearing in our modern civilization is no longer the simple physiological process that many people believe it to be. After the child is born, there is still a great deal of work to be done before the child becomes a useful citizen. When one realizes that fifty thousand, out of one hundred and forty thousand babies born in one year, are bottle fed at once, and that seventy per cent of the infant mortality and infant illness is found among this bottle fed

group, one of the many difficult phases of infant welfare work can be readily seen.

You may be wondering how I happen to be interested in infant welfare work. I find it closely connected with my work with the physically subnormal college students. There are a large number of college students at the University of Illinois not in good health. Many of their conditions can be traced back to infant neglect. I think of one

boy who, at the age of six months, had infantile paralysis. His parents, thinking that they were doing the right thing, called in a chiropractor. The boy was "treated" for some time by the chiropractor. His condition did not improve. He was allowed to creep without braces that might have helped to prevent his present deformity. He has used crutches for eighteen years.

Marked Flat Feet

Any number of boys show marked flat feet. Ill-fitting shoes in early child-



A GREENSBORO FUTURE JOHN KNOX BUSY WITH HIS BIBLE STORY BOOK

hood, rickets, etc., can be blamed for a large majority of the foot conditions found among college students today. Spinal curvatures are discovered when a student enters the university. The student is usually unaware of his deformity. Our present knowledge of the causes of spinal curvatures offers conclusive evidence that many of the spinal curvatures found in college stu-

dents are due to faulty postures and abnormal bone tissue growth of early youth.

Our organic heart cases frequently give a history of a number of so-called childhood diseases. There may be some connection between the after effects of scarlet fever, diphtheria, tonsilitis, etc., and heart disturbances. The same may be said for various other organic conditions found in the college student of today.

The present trend in physical education is not entirely on athletics. We have our noted athletes but we are constantly giving more attention to the physically subnormal individuals. Many schools have a number of coaches to train a relatively small number of athletes, while the majority of individuals secure their exercise by cheering for the team. Owing to the demands of the fickle public, who are not satisfied with an even break in contests won and contests lost, this condition will naturally persist for some time. The satisfactory sign of improvement is the attention that is slowly but surely being given to those who most need physical exercise and health training.

I am one of the old fashioned type of individual who feels that it is better to teach ten students how to stand and walk correctly than it is to teach one man how to run a quarter of a mile in forty-eight seconds. I am old fashioned enough to believe that it is important to teach college students how to take care of their bodies so that when they become parents they will know how to teach their children proper health habits. I am also one who believes that communicable diseases such as typhoid, smallpox, and diphtheria can and should be avoided by proper immunization.

We ought to make a more earnest effort to know more about health. We know how to take care of our automobiles. We believe that stream pollution is unfair to the fishes. We learn that hogs should be immunized against cholera, that cattle should be tuberculin tested, that oats should be sprayed against smut, that pedigreed stock produces the best offspring, that certain specific soil treatments are necessary if we are to make seventy bushels of

corn grow where only forty grew before, but we do not get excited when we learn that seventy-five per cent of our school children are defective. It is too bad that our children are not born pedigreed live stock, but they may be able to overcome the handicap.

Defects of Children

Dr. Thos. Wood of Columbia University reports that the physical and mental defects of our school children are as follows: One per cent are mentally defective; one plus per cent have heart disturbances; five per cent have, or have had tuberculosis; twenty-five per cent have defective vision; ten to twenty-five per cent are undernourished; ten to twenty-five per cent have diseased tonsils and enlarged adenoids; ten to twenty per cent have orthopedic defects; and fifty to seventy-five per cent have defective teeth.

The high tension under which the majority of our school children are living has produced a nervous child. The parents of many of our nervous children are themselves nervous. The home life is one of rush and hurry. Leisure time is spent in a mad whirl of amusement. Some think that they are getting enjoyment out of their amusement. All they get is nerves. The child spends his leisure time at the movies, joy riding, dancing, etc. Physical exercise is used by a relatively small number of school children as a leisure time activity. Many cities consider that playgrounds are unnecessary. Sex instruction is relegated to some old companion who tells the story of the reproductive act in a way that pollutes the young mind and makes it easier for the child to go astray. Sex instruction should be given in the home. If it is not given there, and in the majority of cases it is not, it should be given in the schools. There is a crying need for health education in the schools and especially in the elementary schools.

Illinois Needs Examinations

I hope that in the near future the state of Illinois will awake to the need for school medical and mental examinations. Illinois is as yet one of the few states that fail to require, as a health measure, the yearly examination

of its school children. Perhaps when an examination is required there will not be the large number of individuals in the schools with defects and diseases that seriously handicap the child in his school work.

The adult of today is not a good example of exuberant health. Not more than three per cent of apparently healthy individuals can pass a rigorous medical and mental examination and come through with a clean bill of health. Headaches, backaches, constipation, circulatory disturbance, etc., are not considered by many individuals as being signs of ill-health. Just because a person is up and about he thinks that he is healthy. Many people boast about the number of years that have gone by since they have seen their family physician. They know that they cannot be in poor health. These boasting individuals are sure that they are in perfect health. The unfortunate part of the truth of the matter is that a careful examination of these apparently healthy adults reveals the fact that ninety-seven per cent are not healthy.

Death Rates Unstressed

Heart disease killed almost twelve thousand people in Illinois last year. The figures for kidney and cancer are both approximately seven thousand deaths. The newspapers carried no block type headings to broadcast this news. Of course it is not news in the same sense that divorce trials reveal honeymoon secrets.

The adult of today lacks intelligent health knowledge. A woman has a nervous breakdown and she visits a "nerve doctor" (chiropractor) who finds "sore nerves" which he proceeds to "rub." Another woman discovers that she is pregnant. She reads "Light in Dark Places" instead of consulting her doctor. Gargles are administered to children in cases of diphtheria. Patent medicines are swallowed by the gallons. What woman, who has eaten too much and exercised too little, has not tried to reduce by chewing a "reducing chicle" or parboiling herself in a special bath salts costing about one dollar and a half and worth not more than ten cents? Men are just as bad.

A pain in the back is a sign of kidney disease, if we are to believe kidney pill advertisements. Hair tonic may be recommended by a bald-headed barber but men continue to rub it into the few remaining hairs in hopes that a silky down will soon cover the head.

Many men seek health through physical culture. Salacious magazines advertise numerous "Professors" who will, for the small sum of thirty dollars, teach you their "system." If you wait long enough the course will be sold for five dollars. These modest "professors" pose in a leopard skin and show the world how well developed they are. These bare torso boys are not in business for your health. The magazines in which they advertise are not what is known as accepted health literature.

I mentioned communicable diseases as causing ill-health in college men. There are a great number of adult women with rachitic pelves from rickets in infancy. A rachitic pelvis makes childbirth very dangerous. In fact, the mortality in childbirth in women with rachitic pelves is excessive.

The adult woman fails too often to get in touch with her physician when she becomes pregnant. She needs instruction in diet, posture, shoes, sex life, clothing, etc. She should have her urine examined regularly. Very few women take this precaution. They figure that childbearing is a simple physiological process. It should be. They fail to realize, however, that they have not been living a physiological life. Childbearing then, is a time for taking stock of their physical condition. Numerous conditions must be considered. The doctor can advise the pregnant mother just what she should do in order that she will bear a healthy child. The *Chicago Health Bulletin*, published by the city health department carried a number of splendid bulletins on child care (during the prenatal period and after this period) that are quoted by many other states. This is a step in the right direction. More education is needed for the adult men and women of today in order that they may preserve their own health and the health of their children.

Weeding-Out Process

I have mentioned some of the health conditions found among the college students of today. It must be understood that very few students who enter the first grade in the elementary school ever reach college. There is an economic weeding-out process eliminating many students from college. Ordinarily one would expect to find a healthy group in our colleges. At the University of Illinois we have 600 male students in our corrective classes. That does not mean that we have all those who should be taking corrective work. We have those who we can benefit and some of the worst cases who, though we cannot correct their condition, are given protective work in order that their condition will not be aggravated. In this last mentioned group will be found the heart cases, hernia cases, and those with sunken arches.

The corrective group presents a queer picture. Many of these students have never played. They are poorly developed muscularly and organically and some are overnourished. They have not fitted into the ordinary high school athletic program and consequently have had little or no physical education. Their parents, in many cases, are of the studious type who have never played.

The health habits of this group are faulty. Matters of personal hygiene are neglected. Many undernourished students fail to secure sufficient rest and sleep. Improper foods and hasty eating prevent the body from securing the much needed nourishment that should come from food. Fully ninety per cent of the college students are not in good health. They are not bedridden, but their health is not that exuberant health and organic vigor that should be found in the "flower of our youth."

Like Father, Like Son

Many college students portray the examples of their parents. They walk with their feet turned out, and consequently invite foot disturbances. Their postures are poor, and the subsequent mal-alignment of the body parts invite organic disturbances and fatigue. They are nervous, as are many of their high-strung parents. The average woman

takes herself too seriously. Her children do likewise. Many of the college students remind me of the following poem:

"THE MODERN MAN"

*Hurry the baby as fast as you can,
Hurry him, worry him, make him a man.*

Off with his baby clothes, get him in pants

Feed him on brain food and make him advance.

*Hustle him, soon as he's able to walk,
Into a grammar school; cram him with talk.*

Fill his poor head full of figures and facts,

Keep on a-jamming them in till it cracks.

*Once boys grew up at a rational rate,
Now we develop a man while you wait.
Rush him through college, compel him to grab*

Of every known subject, a dip and a dab.

*Get him in business and after the cash,
All by the time he can grow a mustache.*

*Let him forget he was ever a boy,
Make gold his god and its jingle his joy.*

Keep him a hustling and clear out of breath,

Until he wins—Nervous prostration and Death.

Too many people think of health in terms of the physical alone. The health of the college student must be considered in terms of the intellectual, emotional, and social, as well as the physical. If a student is finding it hard to get his studies the intellectual influences the emotional and social and the physical suffers. If the physical side is at fault (bodily defects or ill-health in general), the intellectual suffers and in turn the social and emotional will suffer. Thus a student must be protected from this vicious cycle. The physical side of health must be considered, but also should the intellectual, emotional, and social.

What Corrective Progress?

What progress has been made in correcting these conditions? I am not

entirely a pessimist. I recognize that the life expectancy is now fifty-six years. This increase in life expectancy is due largely to the wonderful work that has been done in infant welfare work and also due to the discoveries which medical science has made and is still making. The discoveries of Pasteur, Jenner, Koch, and others do not necessarily mean that the public is taking advantage of these discoveries.

Just last year at the University of Illinois we had what might have been a dangerous smallpox epidemic. Of course many people have never seen a virulent case of smallpox. They fail to realize that many European towns have, in the dark past, been wiped out because of smallpox. Why should they submit to vaccination? Isn't there great danger in vaccination? These so-called intelligent people had to be literally forced to guard themselves, and in this twentieth century! Progress in health is being made but it takes more perspiration than inspiration. The nurses of infant welfare societies know that many mothers resent health instruction for their children. Persistent education and preventive hygiene measures are needed if we are to improve the health conditions of this country.

It is not enough for you to say, "Well I take care of my family." You may, but you must be your brother's keeper if you are to protect your family from the various diseases that are all too prevalent. You must assist in getting after those who will not help themselves. People who most need health instruction are never at health meetings. You must be the health messenger, carrying the gospel of good health to those who most need it. For that purpose you must know more about health. The advice and teachings of quacks and charlatans must be ignored for the more conservative but scientific teachings of the medical profession. The medical profession must help you by informing you, in layman's language, about health.

Coördinated effort of the various recognized health agencies will make for better health. No one agency has a corner on health. Physical education makes for better health providing the other health agencies are allowed to do their work. Physical education is

not a panacea for all ills. Our co-ordinated efforts will mean a quicker realization of the normal child, who should be, free from defects, in buoyant health, well nourished, constantly practicing health habits, trained so that he has reasonable interest and skill in wholesome play and games, protected against communicable diseases (by serology in diseases where accepted serums are to be obtained), in normal mental health, and developed with adequate emotional control and social adjustment.

Begin With Parents

To have normal, robust children who are free from defects and disease as far as is humanely possible and possessing wholesome ideals built upon a groundwork of healthful habits, we must start with the grandparents and then with the parents and continue this work until ill-health is looked upon with shame.

We must, further, desire not only maximum health during school life, but its fruition in young men and women who shall have sound bodies, sound minds, and a happy outlook upon life. This will enable them to contribute most to their own future and to the future of the nation and the race.—*The Nation's Health.*

A RUNAWAY GIRL

(A True Story)

Once when I was a small girl my mother asked me to go to Lizzie Butler's house and get some beans and corn meal. I said, "All right." I went to Lizzie's home and told her mother what my mother wanted. She gave them to me. I played with Lizzie for a long time. My mother called me to come. I went home and took her the beans and meal.

After a while I took my cat and ran away. My mother did not see me. I went to my aunt's house and ate dinner. Then I went to the woods and picked some blackberries and ate them. A boy saw me. I threw a stone at him.

He ran to my home and told my mother about me. He said, "I saw Pennie in the woods eating some blackberries." My mother said to the boy, "Tell Pennie to come home." He ran to me and said to me, "Your mother wants you." I went home. My mother scolded me for running away. I hung my head.

PENNIE MASON, 3-B—From the *Deaf Carolinian*.

A REMINDER

If you are a parent and have children anywhere between six months and six years of age especially; and if you have not already done so, now is a fine time to have your physician or the health officer give them toxin-antitoxin to protect them from diphtheria.

This kind of vaccination requires three doses to be effective, just like the typhoid vaccination. It is given with a hypodermic needle and it does not hurt the child much. There is seldom any untoward after effects. The treatments are given at intervals of one week, and beginning sometime about three months after the last treatment an immunity against diphtheria is established, which is effective in preventing an attack in at least eighty per cent of children so protected.

Go on and have it done now. You might be sorry sometime you failed to take advantage of this protection for your child. Remember it is not able to protect itself and is dependent entirely upon you.

THE ONLY CURE

If you don't feel just right,
If you can't sleep at night,
If you moan and you sigh,
If your throat feels dry,
If you don't care to smoke,
If your food makes you choke,
If your heart doesn't beat,
If you're getting cold feet,
If your head's in a whirl—
Why not marry the girl?—*Bagology.*



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LEARNING BY DOING



PRONE PRESSURE METHOD OF RESUSCITATION

In the summer camps for boys and girls there is a combination of fun and teaching. The above picture shows the simple prone pressure method of resuscitation being practically taught at a well-known summer camp.

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
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Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
Colds	Influenza	Tuberculosis Placards
Clean-up Placards	Malaria	Typhoid Fever
Chickenpox	Measles	Typhoid Placards
Diphtheria	Pellagra	Veneral Diseases
Don't Spit Placards	Public Health Laws	Water Supplies
Eyes	Prenatal Care	Whooping Cough
Flies		

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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PURE DRINKING WATER AND SAFE DISPOSAL OF SEWAGE

We read not long ago in the newspaper dispatches from the newly discovered gold mine in Nevada that drinking water was selling at two dollars per gallon in the camp and hard to secure at that. This item recalled that the problem of securing pure drinking water and a safe system of sewage disposal, like the problem of obtaining food for the sustenance of life, is in the sub-conscious mind of every living thinking human being at all times. Readers of the Bible are familiar with the specific directions for sewage disposal laid down by Moses in the Camp of Israel nearly fifteen hundred years before Christ. This system is graphically described in the twenty-third chapter of the Book of Deuteronomy. How many hundreds of years or thousands of years before that period the same problems were being handled by kings and judges and of which we have no historic record must remain unknown. The necessity for an abundance of pure drinking water and a safe disposal of sewage is, of course, much more acute in towns and cities, but it is also a problem very often even in rural sections. As people advance in education and culture and wealth from primeval methods of living, whether in country isolation or in city aggregation, the problem is one of the first to be met and solved. The health and happiness of each individual concerned rests largely for the future upon such problems being solved correctly.

More than seventy-five years ago Dr. Isaac Aaron, an eminent Australian physician, wrote that "Experience has shown that whenever large masses of population have settled down permanently on any locality the consequence is an increased liability to disease, and

science has proved that this arises, in a great degree at least, from the neglect of those sanitary precautions which ought always to accompany such an aggregation." The Surgeon General of the United States Public Health Service, writing today, could not express the situation in any truer or fewer words than the foregoing. Less than forty per cent of the population of the United States at present are provided with sewers, according to a statement by the J. B. Lippincott Company recently issued. The statement means, of course, that that number of people only have access to municipal or public sewers of approved type and properly installed and maintained. All of the city and county health officers, as well as the State Board of Health, are called on practically every day for advice concerning the installation of home sewage disposal systems. It is not the purpose of this article to go into detail concerning these things. The State Board of Health has for several years maintained a special bureau to supply this service. The simple matter of common elemental decency in a State like North Carolina today demands that every householder provide at least some of the simpler types of safe sewage disposal methods. Naturally so personal a matter as regulating sanitary conditions on the private premises, in the back-yard, so to speak, of the average family, is a problem that requires an immense amount of tact, patience, care, and persistence. But if the health of the people of the State, in the face of a rapidly increasing population, is to be maintained at anything like a safe minimum, these things must be endured for the benefit of the public health.

Back in the old days, a man could go into a public saloon in a country town, get drunk, get in his own buggy, behind his own mortgaged mule, and drive out of town, raising all the fuss he pleased. He could do that because generally about all he had to run into was a tree or somebody's rail fence and no damage was done except now and then to the driver of the mule. Now-a-days it would be an entirely different proposition. If a man chooses to drink and insists on driving something, it is usually an automobile in which, if he is not fortunate enough to turn it over and kill himself, shortly he will run into somebody else's, and bloody murder and death and destruction is the consequence. So in the same manner is the question of sewage disposal an increasingly important one. Moses even found it so more than thirty-four hundred years ago when his people were gathered together in one large group. The same man who could get drunk in the small town without doing any special damage to anybody on his way home because there was plenty of room, probably lived on a farm in a house situated a mile from his nearest neighbor. Those were the days of open space and personal liberty which, happily or unhappily, are gone forever in this part of the country.

A headline in a recent issue of the *New York Times*, clear across the page in thirty point type, made the following announcement: "City faces a crisis over disposal of waste." The article went on to state that the present method of handling sewage disposal in New York City, the biggest city in the Western World and the second largest on the face of the earth, is called antiquated and inadequate, and the engineers have placed an estimate of one hundred and fifty million dollars as the cost of a modern plant. Right now, at least a dozen of the largest cities and towns in North Carolina need acutely a modern sewage disposal plant, and it is only a matter of a very few years before it will be absolutely necessary for towns like Raleigh to spend a lot of money in the building of proper plants. It is a matter that cannot be put off beyond a certain stage unless the city or town that puts it off is willing

to take the consequence of neglect, which, under modern methods of living, will mean that the cost of neglect is much more than meeting the problem squarely.

The editor of the *Statistical Bulletin* of the Metropolitan Life Insurance Company published in the March issue of that publication an interesting article under the heading of "Typhoid fever in relation to filtration and chlorination of municipal water supplies in American cities." The writer discussed this for the first twenty-five years of the present century; that is, 1900 to 1924, inclusive. The study applied only to groups of cities under two hundred and fifty thousand population down to those not smaller than twenty-five thousand population. He shows plainly "the potent influence that purification of the water supply has had in reducing the typhoid death rate." The writer states that during the first ten years of the present century the mortality from typhoid fever ranged from twenty-five to forty-five per hundred thousand. It was high in all the cities that he studied. Then the writer draws the parallel lesson that "very little attempt at water purification was made during these early years." He says that previous to 1908 there was practically no chlorination of water in any of these places, and less than a third of the population had filtered water available. The writer points out that about 1907 public sentiment became awakened and from then on the adoption of modern public water supply plants was rapid. Following this practical and modern attention toward water purification, in short, a safe water supply, the effect on the death rate from typhoid fever was immediately perceptible. Furthermore, the article clearly establishes the fact that the decline in the death rate from typhoid from year to year was almost in exact accord or ratio of the increase in the number of people using these modern plants. By the year 1924 the minimum typhoid death rate per one hundred thousand population had dropped from a minimum of twenty-five to about four. Naturally there were other agencies contributing to this decline, but the purification of water and the ex-

tension of sewer lines had a great deal to do with the reduction in typhoid. In fact, next to the increasingly safe milk supply provided, the water purification and sewage disposal was the chief cause in this wonderful record.

As a clincher to the figures produced in his article, the editor of the *Bulletin* closes by stating that these studies offer "definite numerical data on the effectiveness of water cleansing and disin-

fecting processes and serves to augment previous data. It should help to demonstrate to the few still skeptical in the matter the direct dependence of typhoid fever mortality upon the quality of public water supplies. These facts also prove quite conclusively the efficacy of the water cleansing and disinfection procedures which have gained such headway in American cities during the past twenty years."

PREVENT TYPHOID FEVER AND COLITIS THIS SUMMER

The death rate from typhoid in North Carolina during the past several years has been constantly coming down lower and lower. This is due to a great many causes, and no one item should receive more than its proportion of credit for the reduction in typhoid fever in the State of North Carolina. It is only proper, however, to give a good portion of credit to achieving such good results to about four or five major causes. First, improvement in the economic status of the people as a whole, allowing them to provide better and safer food and living facilities, including the wide-spread habit now happily existing, of screening the houses; second a safer water supply through the State, and a better and safer public milk supply; third, the increasing use of vaccination against typhoid, especially the thorough job done by the average physician and health officer for all contacts immediately after being exposed to an initial case of typhoid fever in a family. This takes care of the carrier type source of infection in which the food supply and the water supply has not become generally contaminated before discovery of the disease. Fourth, the building of sanitary privies, and a better educated public opinion with reference to sanitary matters in general.

These same agencies, with the exception of vaccination, of course, have to some extent had a favorable effect on the prevalence of colitis among the babies of the State. This has not, however, resulted in such material reduction as would be desirable. Colitis is spread chiefly through polluted water and contaminated food, especially milk which is given to babies. A pre-disposing cause might be said to be the effect sometimes of excessive hot weather at

the time of exposure to the infected food or water. Right now in the month of June we would like to urge upon all people who have not already done so, to see that the houses are thoroughly screened against flies and mosquitoes, and provide for a pure water supply and a pure and uncontaminated milk supply.

The water supplied by public utilities companies, and cities and towns of the State operating their own plants, are under the sanitary supervision of the State Board of Health. This applies also to the watersheds from which water is procured for these public supplies. Therefore this is not so much the responsibility of the general public, except to see that their officials are thoroughly efficient and on the job every minute of the twenty-four hours, as it is for the individual home owner who provides his own water supply, to be alert and active in protecting himself and his family. The water from ordinary wells is very easily polluted. The old type open well, with a bucket and chain or the primitive well sweep and bucket, has long ago been found guilty of great danger on account of the ease with which the water may become contaminated from surface causes. We refer, of course, to the open type well with ordinary wood curbing and not to the cement wells with covered tops and pumps by which the water is drawn. It is a well-known fact, however, that all types of well water are more or less dangerous. This is because fissures in the rocks underneath the ground or breaks in the well casing, even when iron or cement, may let in pollution, and diseases like typhoid and colitis may be the result.

There have been numbers of typhoid epidemics in cities and towns throughout the country in the past due to polluted water supplies in which there was a failure in the chlorinating plant, or they did not practice chlorination of the water outright. In these days of travel to and fro from one part of the country to another over night, with numerous roadside wells and pumps, it is an easier matter than ever to contract typhoid fever or colitis through drinking polluted water. For the person who would exercise even primary caution, especially in the hot summer months, when travelling away from home and partaking of water by the roadside, in tourists camps, or what-nots, a very simple precaution would be to put one drop of tincture of iodine in each glass, that is, half-pint size tumbler, of drinking water and let it stand for twenty minutes before drinking. Such a drink of water would be safe, and by doing this it would tide over a thirsty period until a place is reached where the water supply is known to be good. Such a precaution would be especially desirable in giving water to babies if it is found impossible to boil the water that they drink; but it is easy enough to boil all water that is not known to be pure, which is given to babies or taken by adults. The foregoing precaution should not be necessary as boiled water is simple and safe and possible anywhere. This could easily be arranged at night and a thermos bottle full could last until another place having a good water supply could be reached. Such simple care and protection would be the means of greatly lowering the incidence of colitis, especially among babies of the State, as well as to possibly bring down a little lower the typhoid rate.

The same sanitary precautions mentioned for water, only more so, should be carried through, concerning all milk supplies, especially for babies. Pasteurized milk is the safest, of course, but that entails a first class public supply, which is only available in some of the large cities and towns of the State. Through the summer months where it is not possible to have a thoroughly reliable pasteurized milk product for babies

the simple precaution of boiling the milk for at least three minutes before giving it to any baby should be done. The destruction of the vitamins in milk as the result of boiling it through the summer months can be easily counteracted by the administration of plenty of orange juice or tomato juice, following the physician's suggestion in each individual case as to time and quantity that such items should be given to the baby.

In conclusion, back to the water question for this brief statement, no one should be careless enough to drink raw water out of the ordinary springs, rivers, creeks, and branches, especially during the summer months. People living on farms should, of course, provide themselves with some type of pump, either driven or bored through the ground and operated by a handle, in order to secure a moderately safe and uncontaminated water supply. In this connection it is well to remember that great care should be exercised in the location about the premises in which such pump well should be placed. Also it should hardly be necessary to add that the surface of the ground around such pump well should be carefully cemented and proper and thorough drainage away from the well should be provided.

ETIQUETTE

The wise raccoon, with forest lore imbued,
Before he dines must always wash his food;
Your household cat esteems it more refined
To clean one's whiskers after one has dined.

We shake each other's hands, and yet 'tis known
That gentlemen in China shake their own
While Frenchmen kiss upon the public street,
New Zealander's rub noses when they meet.

BY ARTHUR GUITERMAN.

SUMMER CAMP SAFETY

Some Important Suggestions to Summer Campers

By H. E. MILLER, C.E.,

Director Bureau Sanitary Engineering and Inspection

When the warm spring sunshine caresses the earth and coaxes the sap in the trees, the violets, the dogwood and all the myriad tribes of spring flowers burst forth in a dainty but gorgeous flare of beauty. Soon the trees bring forth their foliage, the snakes crawl out to bask in the sun and the lizard peeps his nose over the rock by the side of the babbling brook to watch small boys tempting the fish with a dainty morsel of angle worm. By these tokens we know spring has come.

The days get hotter, and the sun blazes with relentless fury. Electric fans begin to whirl, bosses get cross and crabbed, stenographers look weary, and the clerks in the stores are no longer courteous. Neighbors cease speaking to one another and men are seen taking their meals in restaurants. Most any afternoon numerous blouses and pairs of small breeches on the bushes around the "old swimming hole" furnish a delightful resting place for the lazy butterfly watching the diving, splashing pranks of youth. By these tokens we know summer is here.

Man being an animal irks under confinement and as soon as the hot trying days of summer come, pines for the woods, the shady spots, the babbling brooks, and pools of water. Following this impulse he seeks a closer touch with nature. First the Rolls-Royce, the Packard and the Cadillac, quietly and majestically roll on to the mountains, and seashore, the lakes and the woods, then the business man's sturdy but less majestic cars move out in increasing numbers, always away, and finally the highways are thronged with the rattling, banging, limping, complaining family "lizzie" all "going away." The vacation rush is on.

There was a time when vacationists depended upon rail transportation and consequently took their refuge in fairly

concentrated groups convenient to railway stations, but the highway and the automobile has changed all this now. Camps, camping parties, summer hotels, swimming pools, bathing lakes, and all manner of vacation party destinations may be found *anywhere*.

The improved economic conditions and improved transportation facilities have immeasurably increased the number of persons to be accommodated. There has been no lack of persons, commercially minded, to provide accommodations. These accommodations, however, temporary at best, and developed with the sole idea of making the maximum profit on the investment, often subject the vacationist to all manner of insanitary conditions and exposure to disease, particularly the filth borne diseases such as typhoid fever, diarrhea and dysentery.

At their homes in the towns and villages, the people of this State are protected against these dangers. The public water supplies are under close and competent supervision of local officials, checked and inspected frequently by the engineers of the State Board of Health, and tested at least once a month by the State Laboratory of Hygiene. The sewerage systems are installed and maintained under competent and careful supervision. The outlying unsewered homes of municipalities are provided with sanitary privies constructed and maintained under the supervision of the State Board of Health. The milk supplies of all the larger and medium sized cities and even some of the smaller towns are under careful and competent supervision of local officials. A majority of these supplies are also checked by the State Board of Health.

Few people have any conception of the measure of public health protection afforded at home or what measures

the official governing agencies exercise in their behalf. They go out from the sanctuaries fortified against disease to "no man's land" oblivious to the barages of filth and contagion, and the snipers maintained by the demon typhoid concealed in the glass of sparkling water from the roadside or camp well and spring, and by dysentery in baby's bottle of milk from the neighborhood cow or the unsupervised haphazard filthy dairy. Formerly the personal environment was circumscribed by the immediate community of the home, but today with the prevalent vacation touring and camping tendency the environment is extended to embrace the length of the highways and byways in every direction, and thus we have become introduced to "vacation typhoid" and a multitude of other ills to which a population, protected at home, heedlessly subjects itself abroad.

A classic instance that characterizes our situation today is that of the city of Washington for several years after the installation of a system of water purification. Water purification had enormously reduced the typhoid fever rate in other cities of similar size, but the result was very disappointing in Washington. The situation was not explained until a careful history of every typhoid fever case was obtained, which demonstrated that the majority of cases occurred among people just returning from vacations. The same exposure on vacations is making substantial contribution to our typhoid rate in North Carolina today.

Summer camps for boys and for girls are fostered and promoted by the Boy Scouts, the Girl Scouts, civic clubs and other organizations looking to wholesome recreation and the proper physical development of our boys and girls. These most laudable projects are all too often carried out with such a surprising lack of consideration for the fundamental considerations of sanitary protection that the health of those attending is often more impaired than improved.

There is at present no law giving the State Board of Health any special control or jurisdiction over camp sanitation. In an effort, however, to extend to these groups as much protection as

possible a full set of regulations covering the important items of proper location and sanitary management has been prepared. The State Board of Health offers to inspect any camp upon request, advise the camp management with regard to matters of sanitation and health protection, and in the case of camps meeting all these regulations will furnish an approval placard showing that the camp has been inspected and conforms to these requirements. These regulations are available in a special pamphlet and may be had by any person upon request to the State Board of Health.

Persons conducting camps, contemplating visiting a camp or planning to send a boy or girl to summer camp should obtain these regulations as a guide. Every person considering patronizing a camp should first determine whether the camp conforms to these regulations and has been inspected and approved by the State Board of Health. This is the only means by which people can know whether they are taking or sending their families to safe places. Even careless and unscrupulous camp managers will proceed to have their camps inspected and make the necessary improvements to conform to the sanitary regulations and obtain the approval of the State Board of Health, if their patrons select their vacation points on this basis.

There are a few major cardinal principles of sanitation upon which the public generally should be advised, and which every person should keep in mind, if the aftermath of disease, so often incident to vacations in summer camps and on camping tours, is to be avoided.

It is true that man is an animal, but when he reverts to nature, in quest of recreation, and is left to his own devices he is the filthiest member of the whole animal kingdom. Even the hog, if not penned up by man in his own filth is a cleanly creature. Human filth contains the germs of typhoid fever and the other so called "fecal bourne diseases," which are among those most deadly to man. Flies, improperly protected water supply and milk supply serve as the most common vehicles of transmission of these diseases. There-

fore, a brief consideration of these items is particularly pertinent at this season of the year.

Water Supply

The popular conception that clear sparkling water is always pure water, and the sentimental longing for a spring like "the old spring" are responsible for many a little gray tombstone making its untimely debut, and for inconceivable grief and suffering.

By the very fact that springs are outcroppings of water at the ground surface it should be readily apparent that springs are essentially surface water and are therefore subject to pollution

Fig. 2 illustrates this character of protection.

The best type of water supply where no public water supply is available, is a driven or drilled well with a pump and water tight platform. For larger camps where the development of surface water supply may be necessary, the project should not be undertaken except with competent engineering counsel.

Sewage Disposal

Improper disposal of excreta may become a menace to the countryside as well as the camp itself. Small and temporary camps should be provided

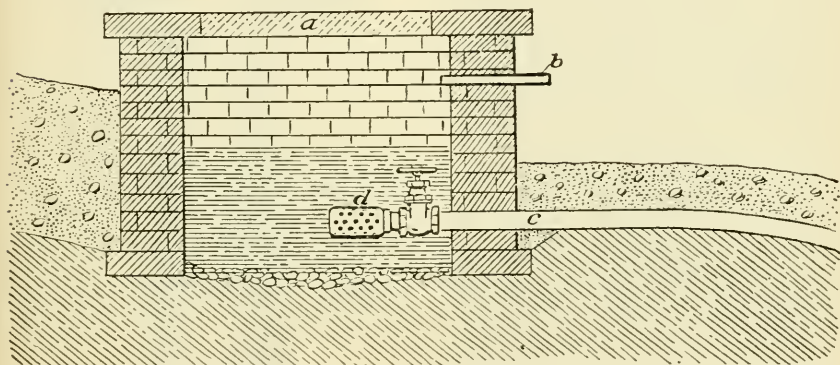


Fig. 1. Properly protected spring with top entirely covered with concrete slab, A; overflow pipe, B; drain pipe, C, to be used when water is to be piped to a distant point; and strainer, D.

from any chance polluting material in the vicinity. As a general rule, springs are unsafe. There are some cases where the spring is not located on the drainage area below the camp or other sources of pollution, where the spring may be adequately protected by installing a water tight covered box, with proper provisions for diversion of surface drainage. Fig. 1 illustrates suitable water tight box construction. It is a wise policy, however, to beware of any spring however well it may appear to be protected.

Open dug wells, particularly open bucket wells, are no better than springs. A dug well properly located may be protected by a water tight raised platform with the ground surface graded up to the platform to provide surface drainage, and equipped with a pump.

with sanitary pit privies, located as remotely as possible from the source of water supply, and constructed and maintained in accordance with the plans and specifications prepared by the State Board of Health and available to any person upon application. The use of the camp privies should be rigidly enforced to prevent the pollution of water supply or the spread of disease bearing excreta by flies. With the best of precautions flies are usually prevalent in camps, which accentuates the menace when it is possible for flies to feed in exposed excreta and carry it to the tables and food supply of the camp.

Milk Supply

Milk supply is the one thing that the average person probably knows the

least about, yet it is one of the most important avenues of infection. The only recognized typhoid fever epidemic in North Carolina in the past few years was milk bourn. Milk is a perfect food for the growth and multiplication of pathogenic or disease bearing bacteria. The temperature of the milk as it is taken from the cow is ideal for bacterial growth. One case of diarrhea at the farm supplying the milk even if the person is not sick in bed may be responsible for the entire child population of the camp developing diarrhea. This accounts for much of the intestinal disorders of children on vacation trips, commonly attributed by mother to unsuitably prepared food and sundry other less likely causes. A case of typhoid fever or the presence of even an unsuspecting typhoid carrier among the milk handlers will subject the whole camp population to typhoid fever, one of the prevalent sources of "vacation typhoid."

The majority of the summer camp population are accustomed to protected milk supplies at home, where milk handlers are given frequent physical examination, the milk is produced under cleanly conditions, and the milk is properly cooled.

Wherever possible the camp milk supply should be obtained from a source of highest grade under careful public supervision. When this is impossible the source of supply should be carefully investigated to secure milk produced under cleanly conditions, and to make sure that there is no sickness among any of the persons connected with the handling of milk. The State Board of Health will furnish to any person upon request, a copy of the "Standard Milk Ordinance" which is the regulation in force governing the majority of the milk supply of the State, and will serve as a very useful means of appraisal of the character of milk supply available.

Garbage Disposal

Improper garbage disposal in itself is not usually a positive health menace, for the only filth that is dangerous filth is feces of man himself. Aside from the nuisance and unsightliness it

creates, improper garbage disposal increases the prevalence of flies by providing a suitable place for fly breeding and an abundant food supply. If there is any disease bearing material anywhere about or near the camp, the chance of the food supply becoming infected is proportionate to the in-

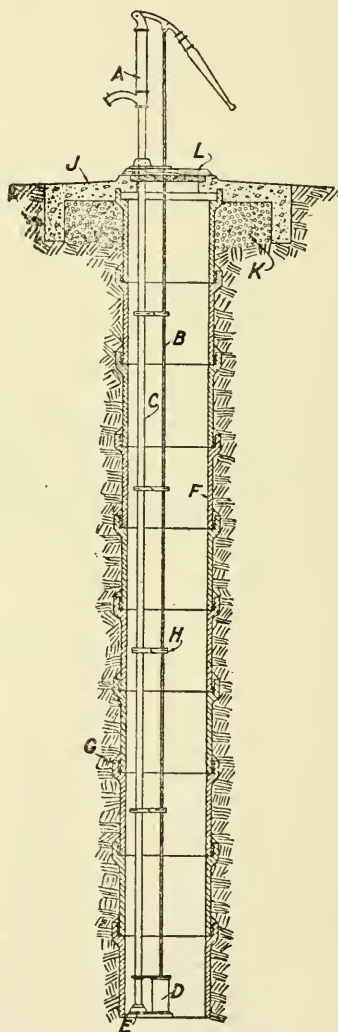


Fig. 2. Section of a dug well with pump showing proper type of casing and protection about the top. Curbed with vitrified socket pipe. (a) Pump stand; (b) pump rod; (c) riser pipe; (d) cylinder; (e) check valve; (f) vitrified socket pipe; (g) joints packed with a strand of oakum dipped in grout and filled with cement mortar; (h) pump rod guides; (j) platform; (k) gravel foundation; (l) cross-planked cover.

creased fly prevalence. In this way garbage disposal has an indirect bearing upon health.

Garbage should be kept in covered containers. Often nearby farmers will be glad to remove it for its feeding value. Otherwise it should be burned. For the larger camps it is practical to provide an incinerator, by means of a simple fire pot under open bars where

the garbage may be placed to dry out over the fire and finally burn.

Advice and information on any phase of camp sanitation will be gladly furnished by the State Board of Health, and commercial or public camps will be inspected upon request, and it is hoped that the camp management and their patrons will make use of this service freely.

HOW THEY DO IT IN MARYLAND

If you are going on an automobile trip this coming summer, or are planning to stay at one of the summer camps along Maryland waterways or at some attractive countryside, before you unpack your belongings be sure that the camp has been duly placarded by the State Department of Health as having met the sanitary requirements of the State Board of Health.

In order that the inspection of such places may be begun before the tourists and vacationists take to the open road, all operators of summer or tourist camps throughout the State are requested by Dr. John S. Fulton, Director of the State Department of Health, to file their applications for permits to operate such camps, at once, with the

State Department of Health, 16 West Saratoga Street, Baltimore.

Only those camps that satisfy the requirements of the Board as to the protection of the water supply, disposal of sewage, proper protection of food supplies and general cleanliness will receive the permit necessary to operate such places. The absence of the official placards will show that they have not met the requirements.

Any premises which accommodate ten or more persons and which are to be used as a camp for tourists or for vacation outings for a period of six days or longer, or which are used as picnic grounds, are subject to these regulations.—*Maryland Health Bulletin*.

TO THIS YEAR'S GRADUATE

No, the following little squib is not a sonnet. It is not a cubist portrait. It could hardly be classified as free advice. But if the suggestions of the physician of twenty years ago could be quietly observed by every graduate of 1927 it would conduce to the health and happiness of a lot of people.

The writer of these lines had just come through the ordeal of graduation examination and had successfully negotiated the State Board of Medical Examiners whose word is final as to whether or not a medical graduate is a doctor for the practical purpose of making a living. On the way home to see his family and pool his debts, ready to commence the search for a location, from which vantage point fame and fortune were to be achieved, he met up with an acquaintance who was a successful physician of approaching middle age. Said the doctor to the new

graduate, "Where you going to locate?" "That's worrying me now," was the reply. "Do you know of a good place?"

"No, there are no good places or bad places, broadly speaking," went on the older man. "You should decide where you want to live, where you can be happiest, where you think you can develop best your ideals, and it does not matter how many physicians are there already, that is the place for you to locate. Life will likely be hard on you anyhow, it nearly always is to every man who would live above the ordinary no matter how much favorable influence you think you can command. The only thing to bear in mind is that you must not let it harden you. Do not be ashamed to let your patient or your neighbor see that you are sympathetic. He may need your sympathy much more than he needs your pills. Above all be as honest, as sincere, and as

square with your patient as you would want him to be with you were your places exchanged."

The foregoing conversation took place while standing in the aisle of a local passenger train on a hot spring afternoon and took less time than it has taken to write this down. Looking back over the intervening years, the observation of that successful physician has recurred to mind scores of times. It matters not what vocation or profession or occupation you are entering into at this time, whether lawyer, doctor, banker, nurse, business man, minister, pharmacist, dentist, or otherwise, if you have ever had any ideals it is

time now to re-dedicate yourself anew if the experience you meet with in the world is not to harden you and warp your influence in your chosen occupation or profession. The ideal state should be one in which education and culture and good citizenship should prevail and in which disease and sordidness should be absent, or as near absent as it is possible for an intelligent citizenship to accomplish. If the principles of preventive medicine are to be applied practically for the benefit of the average citizen in North Carolina, the responsibility rests with trained young people who will take up the torch of advance and carry it forward.

HOME FOR THE SUMMER—MALARIA

Soon you will be released from school to the freedom of home and the woods. We want to give you some parting advice which if you follow it will add to your knowledge and help you perhaps to understand some things that now seem a mystery to you.

You have heard much talk about malaria and about mosquitoes, but do you actually know what connection chills and fever have with the insect? Probably not. Well malaria is a disease caused by a germ that attacks the red blood cells and when these break apart you have the attack. These attacks come on at intervals of one, two or three days according to the kind of malaria germ you are infected with. Why? Because just as soon as the cells break down, the little parasites are liberated and they hunt up other red cells not occupied, creep into them, grow into others and finally break this one up. This growth takes one, two or three days as the case may be.

Sometimes a peculiar kind of mosquito bites you. The germs go into its stomach, pass through it and finally reach glands in the head of the insect and if it should bite some one, these will pass into that person's blood and in due time he will have an attack of malaria. That's why you are advised to screen doors and windows, kill mosquitoes, destroy their breeding places, and to cure yourself of malaria because if the mosquito does not exist or cannot reach you, or if malaria does not exist in people's blood the mos-

quito cannot become infected and so cannot carry the disease. That is the connection between malaria and the mosquito. Don't forget to empty all cans, basins, tubs, bowls for flowers even pitchers of water in the bedrooms where water stands and "wigglers" breed. Destroy puddles and ditches that contain stagnant water by draining them that you and others may escape malaria.—*Louisiana Health Bulletin.*

ANNOUNCEMENT OF PUBLIC HEALTH INSTITUTE

We are requested to announce that the Massachusetts Institute of Technology at Cambridge, Massachusetts, will conduct a Public Health Institute for health officers and other public health workers between the dates of July 5 and August 5, 1927. Health officers and other health workers interested in taking such a course may communicate with Professor F. C. Prescott, Department of Biology and Public Health, Massachusetts Institute of Technology, Cambridge, Massachusetts.

CONSOLATION

"Well, Mrs. Johnsing," a colored physician announced, after taking her husband's temperature, "Ah has knocked de fever outen him."

"Sho' 'nuff?" was the excited reply. "Am he gwine to git well, den?"

"No'm," answered the doctor. "Dey's no hope fo' him, but you has de satisfaction of knowing dat he died cured." —*Pickup.*

THE STANDARD MILK ORDINANCE IN NORTH CAROLINA

By MALCOLM LEWIS, Assistant Engineer—Milk Sanitation

While milk is one of our most valuable and indispensable foods, beneficial alike to old and young, it may occasionally become a menace as a disseminator of disease. Since we cannot tell from looking at it when it is dangerous and when it is safe, we take the precaution of surrendering its production with such regulations as will best insure that it shall be uniformly clean and as safe as it is possible to make it. Ordinances or regulations in the past relating to milk have been many and varied, and rarely are they identical, one with another. Consequently, although the idea of "grading" milk is not new, it has not been possible to say that Grade A milk in one city was produced according to the requirements that Grade A milk in some other city must meet. To have Grade A signify compliance with the same standards in one place as well as in others—in other words, to have Grade A convey the same meaning to the consumer—it is necessary to have a Standard Milk Ordinance, of such a nature that the requirements for the production of milk will be acceptable to and enforced by a large number of cities.

Conditions in 1924

In 1924, as a result of a preliminary survey, it was found that 21 North Carolina cities had adopted a milk ordinance of some sort and were carrying on control measures. A detailed study of the ordinances brought out very strongly that there existed a great variance in the ideas of individual health officers and milk inspectors as to what should constitute the essential requirements of a milk ordinance. With the resulting variation among the milk ordinances, some omitting important essentials, others tending to include too many non-essentials, it was found that no intelligent comparisons of the different milk supplies could be made, and it was an almost hopeless task to keep

in mind the variations between the different cities. This also had its effect upon the dairymen, for many of them held that if the officials, who should be best qualified to know, could not agree on what requirements were necessary, then the requirements they did make were open to question.

To bring uniformity out of the then existing chaos, and yet continue to recognize Milk Sanitation as a municipal function, at first seemed impossible of attainment. Fortunately, there was brought to our attention at this time a Standard Milk Ordinance that had been developed by the United States Public Health Service, and which had stood the test of a year's trial in several cities of Alabama. After a careful study of this ordinance it was approved by the North Carolina State Board of Health to be recommended for local adoption by the cities of the State.

This was done because:

(1) Uniform standards of quality were considered to be of basic importance.

(2) Although we did not then, and do not now, consider this Standard Ordinance to be perfect, it is necessary to have a uniform ordinance in order to secure uniform standards in milk sanitation, and this ordinance was more generally satisfactory than any other we had seen, or were able to draft ourselves.

(3) In the most thorough analysis of the ordinance it was found to be "complete, fair and practical."

(4) Classification of milk by grades is a sound principle on which to base the establishment of widespread uniformity of milk sanitation standards.

(5) It was recognized that the services of an official correlating agency, such as the United States Public Health Service, was essential to the widest adoption of uniform, reliable standards, in other states as well as in North Carolina.

Cities have been advised to adopt the Standard Milk Ordinance, never because it was better than the milk ordinance they have had in effect, but solely in the interest of establishing uniform standards for the sanitary production of milk.

Present Condition

Of the 21 cities in 1924 that had some form of milk ordinance, 17 have adopted the Standard Milk Ordinance in place of the one they had. In addition, 16 other cities have adopted the Standard Milk Ordinance as their first milk ordinance. This makes a total of 33 cities of the State, all of which are now grading their milk supplies under one and the same ordinance. In addition, one of the 33 is a unit made up of 5 adjoining cities, but all administered by one milk inspector. This would make the total number of cities 37.

Not all cities are large enough to afford the necessary funds for carrying on efficient milk sanitation, for the operation of any milk ordinance requires the services of a competent dairy inspector, some one competent to make the necessary laboratory examinations of the milk, and the laboratory with its equipment for this work. Wherever possible arrangements have been made to utilize existing facilities and to combine milk sanitation with some other line of city work, to the end that the smaller city could have the benefit of a safe milk supply. At present, among the cities with populations between 10,000 and 5,000 there are 10 which are carrying out the Standard Milk Ordinance, and in cities with populations less than 5,000 there are 8.

Main Features of the Standard Milk Ordinance

One of the unique requirements of the Standard Milk Ordinance is that not only must the grade letter be marked on the bottle cap, but all stores retailing milk, and cafes, restaurants, soda fountains, and hotel dining rooms where milk is dispensed, must display for the information of the buyer, a placard stating the grade of the milk sold. It is a fact of actual experience that practically no such place feels that it can afford to post a placard of a

grade lower than "A." This is a powerful incentive to the dairymen to produce nothing but Grade A milk, since he finds little market for a lower grade. The public wants only the best grade.

The posting of such placards and the printing of the grade letter on all bottle caps is one part of the publicity campaign by which the public is informed of the quality of milk they are purchasing. Coincident with the adoption of the ordinance the meaning of the grades is explained through the press and by talks before representative clubs and civic organizations.

Briefly outlined, the essential requirements for the production of Grade A milk are:

Cattle: Healthy and free from tuberculosis or other disease.

Milking Barns: Smooth walls, painted or whitewashed, cement floors, well lighted and ventilated, floors kept clean.

Milk House: Walls and ceiling smooth and painted, cement floors, screened, free from flies, steam sterilizer.

Water Supply: Safe, adequate and convenient.

Toilet: Not less than N. C. State Sanitary Privy.

Utensils: Small-mouth milk pails, all utensils properly cleaned, sterilized, stored and handled.

Milking Methods: Cows brushed before milking, cows' udders and milkers' hands washed in disinfecting solution and dried with a clean cloth before milking, clean milk stools, milk removed from the barn to milk house for straining, milk cooled to 50 degrees Fahrenheit and delivered at or below that temperature, average of bacteria counts not to exceed 50,000.

Bottling: Sterilized bottles, clean caps, handled in a sanitary manner.

Personnel: Health certificates for all persons employed in the production or handling of milk.

The Place of Pasteurization

Observance of the requirements for production of Grade A milk, of which the above is an abridgment, will furnish a supply of milk which is as safe

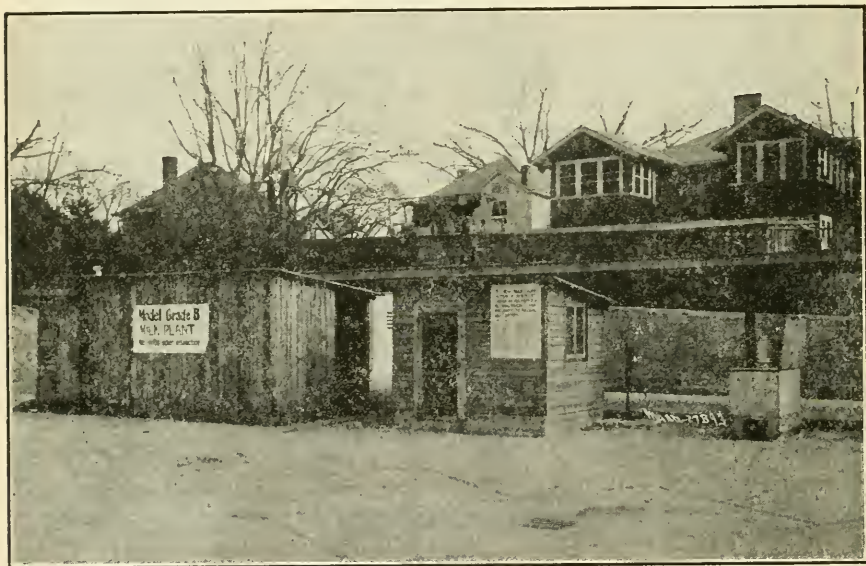
it is further convinced that no milk, however carefully safeguarded, is entirely safe in its raw state. The State Board of Health further recognizes the proper pasteurization of milk as the ultimate ideal, but will only encourage the expansion of pasteurization in accordance with public demand and as local conditions and facilities will per-

mit. Experience has shown that even without pasteurization, the improvement of raw milk supplies along the lines indicated has decreased the amount of summer diarrhoeas among infants, and the increased confidence of the public in the improved safety and cleanliness have increased the consumption of milk as a food.

What One City Is Doing

Recently there has come to our notice a very fine piece of milk publicity in the city of Charlotte. The raw milk

behind the City Market (see figure 2). This consisted of full size Milking Barn, Milk House, Steam Sterilizer, Safe Well and Pump, and State Sanitary Privy. All the material was supplied by local concerns free of charge, and the unit has resulted in a great improvement in conditions on the dairies supplying the milk for pasteurization. An attractive placard for posting in cafes (see figure 3), restaurants, soda fountains, etc., was designed by an artist and is printed from copper plate engravings in three colors. The use of



CHARLOTTE DEMONSTRATION DAIRY UNIT

Fig. 2. Erected back of the City Market by the Dairy Inspector from material contributed by local concerns to demonstrate to the dairymen supplying the pasteurization plants the simplicity of the equipment needed. The unit comprises a State Sanitary Privy, a Milking Barn, a Milk House, a Safe Well Curb and Pump, and a Steam Sterilizer.

dairymen have organized the "Grade A Raw Milk Producers Association" and published a full page advertisement (see figure 1) in a Sunday newspaper showing their attitudes. This displays a reproduction of each dairyman's bottle cap together with the requirements which they have met and intend to maintain. Since about June, 1926, they have all attained Grade A standing. To demonstrate to the producers supplying the pasteurizing plants the simplicity of the requirements, a demonstration unit was built by the Dairy Inspector

these plates has been offered the State Board of Health should the design meet with general approval for use anywhere in the State that the Standard Ordinance is in effect.

Standard Milk Ordinance Cities

The following cities have progressed to the point in Milk Sanitation under the Standard Milk Ordinance where milk grades have been announced, and you should watch for the grade letter on the bottle caps, and the grade pla-

card in food stores when buying milk in these cities:

Burlington	Hickory
Chapel Hill	High Point
Charlotte	Mount Airy
Concord	New Bern
Durham	Oxford
Fayetteville	Sanford
Goldsboro	Southern Pines
Greensboro	Statesville
Greenville	Thomasville
Halifax County	Washington
Hamlet	Wilson
Hendersonville	

The following cities have adopted the Standard Milk Ordinance and are work-

ing under it, but have not reached the point as yet where they can announce the grades of all milk sold in the city:

Elizabeth City	Reidsville
Kinston	Rocky Mount
Leaksville Township	Salisbury
Lexington	Tarboro
Morehead City	Winston-Salem

It should be remembered that there are other cities than those appearing on this list which are doing effective work in milk sanitation, and it should not be assumed that because they have not adopted the Standard Milk Ordinance that their milk supplies are dangerous.

BOSS, AH DESIRES
GRADE
LACTEAL FLUID
FROM THE BOVINE



This would be a most unfair and entirely unwarranted conclusion to draw. Some of these cities not under the Standard Milk Ordinance have already availed themselves of the services the State Board of Health is prepared to render in milk sanitation to any city that requests it, and may adopt the Standard Milk Ordinance when local conditions seem to render such a step advisable.

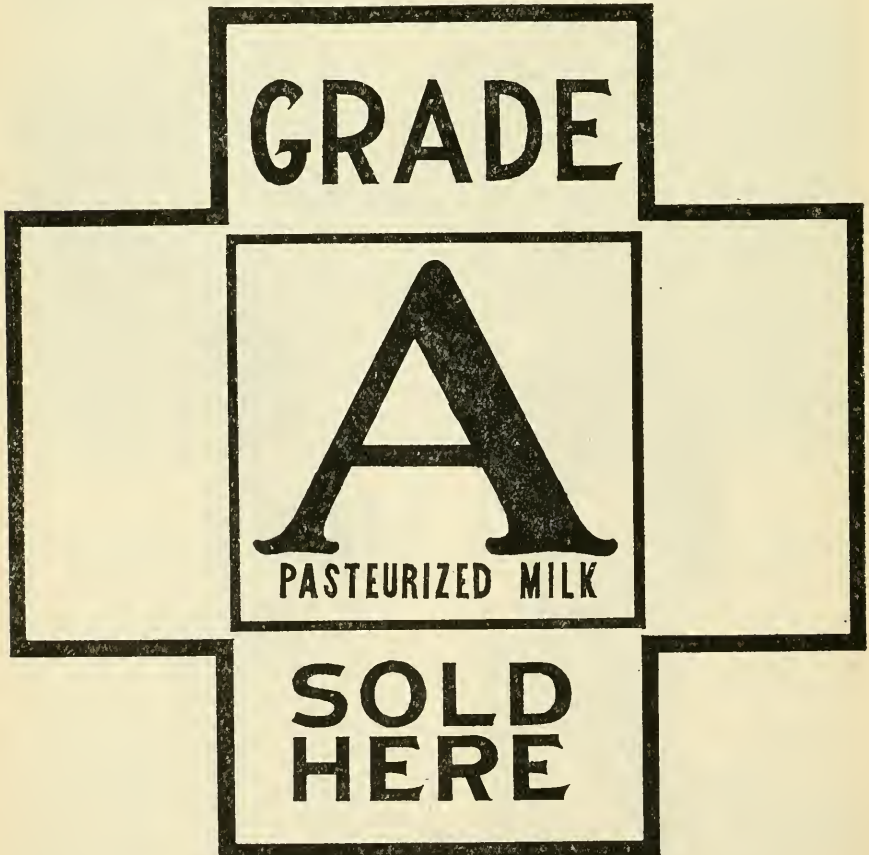
In Other States

Meanwhile the correlating agency, the United States Public Health Service, has been active in other states until now the Standard Milk Ordinance has been adopted as standard by the following states:

Virginia
West Virginia
Kentucky
Missouri
North Carolina
South Carolina
Tennessee

Alabama
Mississippi
Arkansas
Louisiana
Texas
Utah
Arizona

In these states there are over 100 cities that have adopted and are conducting Milk Sanitation under the same Standard Milk Ordinance that has been adopted in 33 North Carolina cities. Inquiries received indicate that this number will increase from time to time and gradually the adoption of the ordinance will spread over a large part of the United States if not the whole.



STANDARD ORDINANCE

Fig. 3. Sample placard.

SEMI-STARVATION—FASHIONABLE SUICIDE

Fashion has declared that woman must be slender so an epidemic of fasting or semi-starvation is rapidly spreading among society women. The mortality tables will soon begin to show the result.

Women are naturally plumper than men, their bodies are rounder and they have a larger proportion of adipose tissue. After forty, women naturally increase somewhat in weight. It is always dangerous to attempt to thwart the purposes of Nature. For a woman naturally inclined to plumpness the semi-starvation necessary to keep herself slender lowers her vital resistance and opens the way for tuberculosis and other infectious diseases. Besides, such an unphysiologic course lessens endurance, fitness and efficiency. Food is fuel and a reduction of the intake of food below the actual requirements of the body so that the body itself must be consumed in order to meet current demands is a damaging procedure which can only result in injury.

The warnings which of late years have been issued against over-fatness

refer only to the excessive fatness which comes from overeating or excessive indulgence in candies and other sweets. The semi-fasting to which many women are subjecting themselves is simply slow suicide. They are simply opening the way for chronic disease and early breakdown and are certainly shortening their lives. A German physician has recently called attention to the fact that by this abnormal reduction of weight the abdominal organs lose their normal support and the kidneys and other organs may become loosened from their anchorage. The weakened abdominal muscles allow an excessive accumulation of blood in the abdomen. This withdraws blood from the brain and other parts requiring a full blood supply. Such persons soon discover that they quickly become weary when on their feet. They feel well enough when lying down, but when on their feet they quickly become exhausted because of the excessive accumulation of blood in the abdominal cavity.—*Good Health*, Battle Creek, Mich.

SOME PROBLEMS AHEAD OF US *

By E. R. HARDIN, M.D.

The papers of the recent Presidents of this Association have given you a retrospective view of the origin, organization and progress of public health work in North Carolina. In this connection I shall only add that the enormous amount of sickness prevented, the thousands of lives saved, and the great reputation that our State has acquired as a safe place in which to live, is in large measure due to the different departments of the State Board of Health, and to the men and women of this Association who have been on the firing line. Much credit is also due the practicing physicians who have aided with their coöperation and influence, and the appropriating bodies who had the good judgment to make

this great work possible. To all these the State of North Carolina owes an everlasting debt of gratitude; for no State can have material assets comparable to the lives of its citizens.

It is my purpose to bring to your attention some of the problems that confront us as public health workers, some of them now in process of solution, others yet to be solved. They are in no sense new or original, nor have I found a solution for them. They are problems that require the thought and consideration of organized groups of men and women interested in public health work. This is such an organization, and to you the people of North Carolina look for leadership in public health and the solution of all their

* President's address before the North Carolina Health Officers' Association, Durham, April 18, 1927.

public health problems; because after all they concern the citizenship of our whole State.

As workers in the field you are aware of the fact that many of our people are profoundly ignorant of the rudiments of personal hygiene and disease prevention. This is not only true of the adult population, but thousands of children, especially in our rural schools, either have little more than a primitive conception of personal hygiene or else do not put their knowledge into practice. As evidence of this fact: go into any average rural school, and ask the children if they have handkerchiefs or tooth brushes; ask how many of them brush their teeth each day, how often they take a bath, and whether they wash their hands before eating. Also observe their lack of personal cleanliness, their manner of drinking from the mouth of the pump, and note the condition of the school privies.

The children are not to blame, they are following the precept and example of their parents. Since many of the parents are incapable of teaching their children the habits of personal hygiene the next logical person to do it is the school teacher, as the child spends a great part of his life in the school room during the formative period when health habits are easily acquired. These lessons must be drilled into them constantly day after day, and who else can do this but the teacher, when the parents fail? The public health nurse and the health officer may help some but if the teachers' environment and training have not given them an appreciation of the value and importance of personal hygiene the task is almost hopeless. For this reason this Association should use its influence to bring about legislation requiring the establishing of a public health course in all teacher training schools, and the demonstration of such knowledge on the part of all teachers as a prerequisite to certification.

Teacher Training In Colleges Needed

Our law governing the physical examination of school children in North Carolina is all right as far as it goes, but it does not go far enough. To any

one familiar with this work in our rural schools it is obvious that the law is to a large extent nullified by the fact that the teachers have not been trained in the work, and few of them can do it efficiently. Any process usually seems uninteresting and difficult to people who do not understand it, and the teachers as a whole are no exception to this rule.

My experience with rural teachers has convinced me that most of them know very little about the usual physical defects of school children, and even less about contagious diseases. The information furnished the teachers through the teachers manual, the contagious disease guides and bulletins has been made as simple and practical as possible; but we must remember that this is a new subject to the majority of the teachers.

The State having placed the responsibility of physical examinations and health instruction in the school on the teachers, it seems only fair that they be required to prepare themselves to discharge this obligation efficiently. The State of Virginia in 1920 ratified an act, requiring that all teachers in the State should by 1925 have a course "including preventive medicine, physical inspection, health instruction and physical training," to prepare them for health work in the schools by giving them a practical knowledge of the causes, the corrections, and the prevention of hindrances to the best mental and physical development of children. The responsibility for carrying out the provisions of this law was placed upon the State Board of Health, and the State Board of Education. A special course of study was promulgated by the State Board of Health and State Board of Education jointly, and made one of the requirements for certification in all teacher training institutions of the State, and for the renewal of certificates of teachers already in the service. To meet the needs of the teachers, who could not attend such schools or colleges a correspondence course was offered by the State Board of Health. The special course of study comprises the following subjects: physical defects and their control, communicable disease and their control,

personal hygiene, the teacher's health and first aid. The feature that makes this course differ from those ordinarily given is the practice demanded by the actual inspection of children for possible defects, in vision, hearing, teeth, throat, weight and in making records of conditions found. Instructors are asked to impress upon their students that the inspections required of teachers does not at all mean an examination, but only an intelligent inspection of their pupils in order to detect obvious physical defects, and visible symptoms of disease, so as to inform parents of the existence of such handicaps to school work, and to recommend medical attention. North Carolina needs such a law as this if we are to continue to progress in medical school inspection, the removal of physical defects, the teaching of personal hygiene, and the prevention and control of contagious diseases.

Farm Tenancy Important Item

Next to the lack of education in matters pertaining to public health in the rural sections of our State, probably the greatest obstacle to public health progress is the poor economic status of a large per cent of our rural people. One hundred and twenty-eight thousand of our farmers own no land and belong to the tenant class. Forty-five per cent of the farms in North Carolina are operated by tenants, and a still greater per cent in other Southern States, except Tennessee. It is obvious that the tenant farmer, constituting as he does, so large a proportion of our rural population, must profoundly influence the social, moral and health conditions of our rural people. The character of this influence will depend largely upon an intelligent and sympathetic consideration of the tenant farmer and his problems, by the State and local governments, the land owners, and all social and welfare agencies.

There is no doubt that the farm tenant system is detrimental to the people of our State, from a public health as well as an economic standpoint. The influence of the tenant class on public health in the rural sections is reflected in the high incidence of typhoid fever and bacillary dysentery each year.

Problem of Further Typhoid Reduction in Rural Sections

The reduction of the death rate in typhoid fever from 35.8 per one hundred thousand in 1914 to 9.8 per hundred thousand in 1925, has had a great deal to do with the popularity and success of public health work in North Carolina, but it is doubtful if the present rate of typhoid fever and bacillary dysentery can be changed in the rural sections, until the thousands of rural homes, particularly those of the farm tenants, are provided with at least the fundamental necessities of disease prevention, namely safe water supplies, sanitary privies and screened homes. A sanitary privy and a deep driven well properly located, can be provided at any rural home with very little expense. I have seen owners of large plantations spend enough money in one year for medicine and professional services, in cases of typhoid fever and colitis among tenant families to provide sanitary privies and safe wells for all the tenant homes on the farm. The tenant as a rule has to pay these obligations, the result largely of the neglect of the land owner to provide the ordinary means of protection.

You are familiar with the many obstacles met with in trying to protect the tenant class of people from disease. The general public, particularly the large land owners must be better educated along this line. We must show them that from an economic standpoint it is cheaper to provide their tenants with safe water and proper sewage disposal. An old Latin proverb says "as is the commander so is the soldiers." In the matter of public health "as is the land owner so is the tenant." If the landlord is interested and coöperative the tenants will usually be interested.

Breast Feeding

An eminent health authority has said that the fundamental work of a health department is to change customs and habits. If this be true we still have many problems ahead of us. So another problem which I present for your consideration is the weaning of babies without cause, and the nursing of

babies after the first year. Thousands of babies are deprived of breast milk during the first months, because their mothers think the breast milk is too strong or disagrees with the babies. Many other babies are nursed after the first year, either because of the fear of weaning, or the fallacious idea that continued nursing will prevent conception.

Out of 248 babies of all races examined in a series of baby clinics in Robeson County recently, 31 per cent were nursed up to the thirteenth or twentieth month. Poor artificial feeding and prolonged nursing are responsible for most of the malnutrition and rickets we find in this section of our State. Mothers should know the serious consequences of artificial feeding, without a doctor's advice and of prolonged nursing after the first year. The remedy is continuous publicity and instruction by public health workers and the practicing physicians. The newspapers can render a great service to the people by promoting such publicity.

Measles Control Difficult Problem

Considering its communicability, the difficulty of early recognition, the number of people infected, the loss of time from school, the high death rate, the attitude of the general public toward the disease, and the futility of control measures, measles constitutes one of our greatest public health problems. With the possible exception of the great periodic epidemics of influenza, no other disease paralyzes school attendance and closes so many schools as measles. Chapin, in his excellent work "The Source and Modes of Infection" says "measles is a disease which in cities seems to be impossible to check to any appreciable extent by isolation. In Aberdeen, Scotland, it was faithfully tried for twenty years, but no apparent effect was produced on the prevalence of the disease. A census of children over ten years of age, had had measles. There is no evidence that the same measures adopted in New York had any more effect on the prevalence of the disease than in Aberdeen.

It seems very probable that the disease prevails, because of the unrecognized but infectious prodromal state,

and no amount of isolation after the disease is recognized can atone for the harm done before the diagnosis is made. In attempting to control measles we should bear in mind that it is the older child, as a rule, who carries the infection into the home and that the danger to the younger children of the family is greater proportionately than it is to the one who brings it into the household.

No doubt many of you have had the unpleasant experience of trying to check large epidemics of measles, in the rural sections. It is discouraging both to the health officer and the people he is trying to help; because both feel that little of real good can be done. In view of the above facts, should not all health officers welcome any practical methods that may aid in the control of measles.

The use of convalescent serum seems to offer great possibilities both in the prevention of large epidemics in the schools and the reduction of the mortality by protecting very young children and those with poor resistance. The greatest obstacle seems to be the difficulty in obtaining the human serum. However if a sufficient number of convalescent measles cases should agree to give a reasonable quantity of blood for immunization it would be easier to get the blood than to visit every home in the community for the purpose of quarantine. At least you would feel that you were accomplishing something, in securing serum for the purpose of immunizing contacts.

Diphtheria Control Work Hopeful

Diphtheria is still a dark cloud on the public health horizon, as the death rate has been on the increase in North Carolina since 1919. This is due to the fact that thousands of children of the pre-school age have not had toxin-antitoxin, and it is in this age group that we have the highest death rate. There was little or no decrease in the incidence of diphtheria in New York City, until extensive immunization campaigns were begun in 1920. Since that time there has been a great reduction in both the incidence and death rate of diphtheria in New York.

There are two principal sources of infection with the diphtheria bacillus, namely clinical cases and carriers. Practically all the studies have demonstrated that 0.2 to 0.3 per cent of healthy school children are carriers of virulent diphtheria bacilli and 1 per cent of the population as a whole. It is natural to believe that diphtheria carriers are the source of infection in many cases. However diphtheria carriers have been pursued for the last twenty years, and many have been detected and isolated, yet there is little evidence that the incidence of diphtheria has decreased in the country until the last few years. There seems to be good reason to believe that the menace of diphtheria carriers has been over emphasized. Certainly the detection and quarantine of carriers is impractical in rural health work and will do more harm than good.

The immunization of children from six months to twelve years with toxin-antitoxin has done more than anything else to reduce the incidence of diphtheria. We should push our immunization work in the schools; but at the same time we must make a more determined effort to immunize the thousands of infants and pre-school children in the homes. Isolation and quarantine, education on diphtheria prevention and immunization with toxin-antitoxin are weapons to reduce the incidence of diphtheria. This with constant warning to parents as to danger of not calling a doctor early and urging use of antitoxin in large doses, intravenously when necessary, will further reduce the mortality.

Heart Disease Causes Most Deaths

From the standpoint of mortality, invalidism, and economic loss, heart disease stands at the top of the list in this country and constitutes one of the major public health problems of today. Heart disease ranks as the principal cause of death in the United States for the year 1925, the total number of deaths being 191,226 according to a recent announcement made by the United States Department of Commerce. This disease causes from 10 to 15 per cent of the total deaths from all

causes and challenges our attention as workers in the prevention field. No doubt a campaign against tuberculosis twenty-five years ago seemed almost hopeless, as we knew little about the disease, and yet tuberculosis has been reduced from first to sixth place in many States. This should give us courage to initiate a similar campaign for the education of the public on the prevention of heart disease.

The uncertain nature of the etiology of heart disease seems like an impassable barrier at the very beginning. So far as our present knowledge goes, acute rheumatic fever, tonsillitis, chorea and syphilis are among the more prominent causes. Certain large hospital clinics show that 50 per cent of cardiac cases give a definite history of acute rheumatic fever. Overwork and abuse of the heart, causing a degeneration, the same as degenerative diseases of the kidney and other organs of the body, is no doubt a factor in the heart disease problem. However we must bear in mind the fact that the heart has to withstand the invasion of all the infectious agents that enter the blood stream. The fact that heart disease is now taking top place in the causes of death, brings home to us the fact that these infections take place with far greater frequency and far more killing effect than the diphtheria bacilli on the tonsils, or the typhoid bacillus on Peyers patches.

We need more data on heart disease, and the various infections and mechanical factors that have to do with its incidence, should be recorded somewhere; either in the home, the doctor's office, the school or the local health department. At the present time there is no definite data as to the per cent of heart disease that follows scarlet fever, diphtheria, influenza, measles, syphilis, tonsillitis, rheumatic fever, etc. After the investigational phase of the work has been carried on to the limit of our present meager facilities we should endeavor to educate the general public as to the cause and importance of heart disease. The public will have to be as well informed on heart disease as it is on tuberculosis before we can expect to reduce the incidence of this disease as tuberculosis has been reduced.

Negro Death Rate

Still another problem that has not received the attention it merits, is the high disease and death rate among negroes. This is a real menace to the health of many communities. The physical condition of the negro must be improved if the forward march of public health in the South is not to be retarded. The negro has much to do with our every day life. He works in our homes, comes into intimate contact with the family life and with our children, and so must of a necessity, affect the health of the white race. The negro population in this country is increasing but at a much lower rate than the whites.

Among the causes of mortality in negro infants, tuberculosis, syphilis and pneumonia are conspicuous. In the birth registration area in 1921 negro infants died four times more frequently from pulmonary tuberculosis, four times more frequently from syphilis, and 2.3 times more frequently from pneumonia, as did white infants from similar causes. There was no marked difference between the races in deaths from diarrhea and enteritis, whereas congenital malformations and injuries at birth were twice as fatal in white as compared with negro infants.

Twenty per cent of all deaths under one year among the negroes were the result of either tuberculosis, syphilis or diseases of the respiratory tract, but only ten per cent of the deaths of white infants were due to the same causes.

If the mortality from premature births, which is often caused by syphilis, is included with the three conditions mentioned above, the four diseases accounted for 42 per cent of the deaths of negro infants and but 28 per cent of the deaths of white infants. These figures may be regarded as typical of conditions among the negroes. The high incidence of venereal disease among the negroes is well known. Notwithstanding the large incidence of congenital syphilis among colored infants, the acquired form is only seen in later life; for rarely do colored babies with congenital lues survive. Gonorrhea in both sexes is all too frequent, and exacts a large toll in destroying potential infant life.

In studies made of the problem in Baltimore and Philadelphia, under the same economic working and home conditions, the mortality of negro infants, did not exceed that of the foreign whites and was practically the same as the native born whites. Evidently race in itself is not a determining factor, but a lower economic status and lower standards of morals and education. It has been shown by practical experience in Baltimore that the mortality among negro infants can be reduced effectively through the education of mothers and the medical supervision of their children. In an examination of rural children in Maryland, rickets as indicated by definite bony changes was found in only 30 per cent of white children, under two years of age, as compared with 70 per cent among the colored. Rickets is no doubt a contributing factor to the high incidence of pneumonia in negro children. Every effort should be furnished which helps in improving the physical and economic condition of the negro, for unless this is done the average standard of public health for white as well as negro will remain unsatisfactory.

General Situation Encouraging

When we consider the problems that I have briefly outlined, and the many others ahead of us, there is an almost impelling sense of discouragement; yet we should remember the enormous improvements which have been made in mass sanitation in recent years. Greater protection has been thrown around the lives of infants, children and mothers, than at any time in the history of our civilization. More people are paying intelligent attention to their health than at any time since the settlement of America. More sanitary work is being done in the rural communities, and never before has the health of the employees in industry been so well safeguarded. These brilliant successes should renew our courage and strengthen our faith for the greater tasks ahead of us. Let us remember the indomitable courage and faith of our forefathers, who converted the vast wilderness and deserts of this continent, into the most progressive and prosperous of all the civilized countries

of the earth, in the span of a few generations. They were the trail blazers, the path finders, the pioneers; they were not to see the colossal accomplishments of the future, that their

work made possible. We must work in this same spirit, without the hope of the greater reward, if we would be true to our profession and the faith of our fathers.

DIPHTHERIA IN THE LARGE CITIES OF THE UNITED STATES

The *Journal's* fourth annual summary of diphtheria mortality in the cities of the United States with more than 100,000 population appears elsewhere in this issue. The cities now number seventy-eight and contain a population in excess of 31,000,000. The total diphtheria deaths in this large population were approximately 3,000, or more than three times the typhoid mortality in the same cities. A substantial fall in the urban diphtheria death rate has occurred since 1923 (from 13.12 to 9.48), but the absolute and relative drop in 1926 was less than in the preceding years. This seems to be chiefly because diphtheria of a virulent type has prevailed in a number of cities, so that, although many communities—including such cities as Boston, Chicago and New York—have shown a notable decline, the rate in others has increased to such a degree

that the total rate shows little improvement. A severe epidemic occurred in Detroit, increasing the rate in that city to a point not reached for years. While it is probable that the measures of prevention early undertaken and energetically carried out kept the mortality rate from rising as high as it might otherwise have done, the rate actually reached such a point (34.8) as to stimulate speculation as to what would have happened if antitoxin treatment and toxin-antitoxin immunization had not been available. Evidently the diphtheria problem is still a major one for health officials. The distinct epidemic prevalence of a virulent type of the disease in a number of cities in 1926 would seem to afford reason not only for renewed efforts in toxin-antitoxin immunization but also for searching bacterial and epidemiologic investigation.—*Journal A. M. A.*

THE DIETARY VALUE OF THE SOY BEAN

A recent issue of the *Lancet* calls attention to the special nutritional value of the soy bean. For thousands of years this bean has been used in North China in the form of a thick jelly eaten daily by all classes of people. It was introduced into England about one hundred years ago, but it is only recently that its remarkable merits have become known. Substitutes for flour, meat, chocolate, cheese and coffee have been made from it, and a "synthetic milk" produced from it aroused much interest. But it has never become popular as a food on account of the disagreeable digestive disturbance to which it may give rise.

Now, however, a new phase in the use of the soy bean has been entered upon, owing to the discovery of Doctor Berczeller of Vienna that the obnoxious constituents can be eliminated by a special milling process and fractional distillation, without interfering with the high nutritional value of the meal.

This nutritional value is so great that Professor Haberlandt, years ago prophesied that the carbohydrate stores of the potato would come to be supplemented, at least in the diet of the poorer classes, by the proteins and fats provided in such abundance in the soy bean.

The proteins of the soy bean are, according to McCullum, distinctly more valuable from the point of view of nutrition than are those of the other legumes. Other workers who have made a special study of the soy bean have concluded that its proteins are quite exceptional among the proteins of leguminous seeds in being completely adequate for normal growth and reproduction, and that they are quite as valuable as the casein in milk. They also point out that this bean seems to be unique among seeds in its vitamin content.—*Good Health*, Battle Creek, Mich.

THE MIDWIFE PROBLEM

Elsewhere in this issue we are publishing an interesting analysis under the subject of "Births Attended by Midwives," accompanied by a table giving percentages of white and negro births attended by midwives, and also the percentage standing of counties in this work. The article and the table were published in a recent issue of the *University North Carolina News Letter* and was prepared by Professor S. H. Hobbs, of the faculty of the University, and Mr. F. C. Upchurch. This analysis is based on a close study of the North Carolina State Board of Health vital statistics report for the year 1925. The report of the Board of Health, of course, simply gives the cold tabulated figures, not only on this question but on many other questions concerning the death rate and causes of death and correlated questions covering many phases of the subject. Any citizen interested in studying these questions further who will write for a copy of the vital statistics report for 1925 will be sent a copy as long as the supply lasts. We are also republishing an editorial from the Greensboro *Daily News* under the title of "Midwife and Mortality Statistics." The editorial in the *News* is based on a study of the statistical surveys in the article prepared by the aforementioned writers in the *University News Letter*. Both articles and the table present many interesting angles and opinions on this subject.

We are re-publishing these items, in the first place, because they are well worth reading by any citizen of North

Carolina; and, in the second place, because of the gratification we have in noting that the subject is at last being given the attention it deserves by the intelligent lay-readers and the press of North Carolina. For years and years public health officers have been discussing and undertaking to devise ways and means to enhance the safety of women, white and black, in this State who are dependent upon the services of midwives at a most critical period of their lives. Doctors without number have read papers at medical society meetings, local, county, and State, having as titles the "Midwife Problem." This has gone on for many years. As an educational background, in order to keep the question in front of thinking people until they were willing to grasp it as seems probable now this education has served its purpose. However it must be acknowledged that little actual material help has as yet been rendered these unfortunate mothers except in isolated localities. The State Board of Health for the last few years in co-operation with the Sheppard-Towner authorities at Washington has been expending thousands of dollars annually in an effort to render systematic, consistent and permanent protection to these thousands of mothers who are unable to procure any better service. We commend these articles to the faithful study and a further careful analysis by the people in the State in responsible positions directly relating to the subject.

BIRTHS ATTENDED BY MIDWIVES

By S. H. HOBBS, JR.

Elsewhere appears a table based on the recent annual report of the Bureau of Vital Statistics, State Board of Health, in which table the counties are ranked according to the per cent of all white children born in 1925 who were delivered by midwives. The parallel column gives the per cent of negro births attended by midwives.

Gaston County makes the best showing with less than seven-tenths of one per cent of white births attended by midwives, the assumption being that the attendance of a doctor is preferable to that of a midwife at child-birth. Brunswick County ranks last with more than fifty-eight per cent of all white births in 1925 attended by midwives.

Of the nearly fifty-eight thousand white children born in the State in 1925, eight thousand one hundred and sixty-three were delivered by midwives.

Six mountain counties report no negro births attended by midwives. All told, only twenty-seven negro children were born in 1925 in these six mountain counties. Dare County with nineteen negro births reports them all attended by midwives. In a large number of counties in eastern North Carolina with large negro ratios more than three-fourths of negro births were attended by midwives. In nine eastern counties more than ninety per cent of negro births were attended by midwives. Of the State total of 25,279 negro births reported, 17,825 or 70.55 per cent were attended by midwives.

All told nearly twenty-six thousand births or about one-third of all births in North Carolina, white and black, were attended by midwives in 1925.

Geographic Distribution

The geographic distribution of the practice of midwifery makes an interesting study. The proportion of white children delivered by midwives in the Piedmont country is rather small. The ratios are high in the counties east of the falls line, or the Coastal Plains, and highest in the Tidewater and mountain counties, with the exception of a half dozen urban counties.

At least four-fifths of all negro births in the eastern half of the State are attended by midwives. The ratio is considerably lower in the Piedmont counties as a rule, and lowest in the Carolina Highlands. There are only three counties in the eastern half of North Carolina with as many as one-third of the negro births attended by doctors.

The South Leads

Midwives appear to be more prevalent in the South than elsewhere. Quoting the Survey: "It was found that midwives were by far the more numerous in the Southern states. Thirty thousand out of the entire 45,000, practiced in Alabama, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, and

Virginia. Virginia had 6,036 registered midwives, North Carolina 6,500, Mississippi 3,200, Michigan, Pennsylvania, and New York had five thousand. The remaining 10,000 of the total 45,000 were scattered among 26 states, an average of only 400 to each."

Who Are the Midwives

The *Monthly Health Bulletin* recently said, "The midwife of Robeson County is rather typical of the midwife of the South. Out of one hundred twenty-eight midwives registered, over one hundred are colored and only thirty-eight can read and write; the average age of each is fifty-six years, and the average number of confinements attended by each midwife annually is nine. Wassermanns were taken on sixty-three midwives and thirteen showed positive."

Further quoting the same article, "These midwives are, except in rare instances, ignorant, untrained, incompetent women, and some of the results of their obstetric incompetence are unnecessary deaths and blindness of infants, and avoidable invalidism, suffering and deaths of mothers. In most European countries the midwife has been a fixed institution for hundreds of years, and receives a strict course of training and supervision by the government. The training of the midwives in Germany, where they are required to spend six months in a government obstetric hospital, under the instruction and supervision of trained obstetricians, is far superior to that which the great majority of physicians receive in this country before graduation. Holland, France, and Italy give a two-year, and Norway, Sweden, and Denmark a one-year course of training to their midwives. England faced this problem, and solved it as late as 1902 by the establishment of the 'Central Midwife Board,' by an act of Parliament entitled 'An act to secure the better training of midwives, and to regulate their practice.' The system is somewhat similar to that of Germany, the midwife being trained in an obstetric hospital for six months, licensed after examination by the Central Midwife Board, and their work supervised by

the government. New York has established a training school for midwives, but it is too small to more than touch the problem in the city alone.

"From all information available, it seems that what is most needed in this country is the better training of the physicians in obstetrics—not to try to educate the midwife to the extent of the European countries. If this is done, she may become a fixed element in our social and economic system and assume a legal status which cannot later be altered . . . Broadly speaking, three standpoints are taken in this country—first, the midwife must be abolished; second, the midwife had best be ignored and left to her own devices; third, the midwife should be raised to a higher plane by proper state control and education. The first proposition is impossible until some better substitute for the midwife is provided to care for the large number of women she attends in childbirth. The second proposal is unworthy of consideration. The third proposition is at the present time the only practical way of dealing with the midwife problem—whether it has for its object the temporary safeguarding of helpless women and children, or finally the elimination of all but the educated midwives. Since the evil of the moment cannot be eradicated, the danger to the public can be minimized by some provision for the proper regulation, supervision and control of midwives by the State. The methods of regulating midwifery may be divided into three classes—restrictive measures carried to indirect abolition; educational restrictions; and, finally, registration and supervision. The purpose of regulation by educational restriction, generally speaking, is not to disturb the existing body of midwives, but to gradually replace them, by means of progressively elevated requirements and standards, by a smaller body of well-trained women; this method to be carried in the course of years to the point of practical abolition. The primary object of registration is to bring the midwives under the supervision of competent officials, so that their work may be subjected to some measure of supervision."—The University of North Carolina *News Letter*.

PER CENT OF WHITE AND NEGRO BIRTHS ATTENDED BY MIDWIVES, 1925

Rank	County	Percent negro births attended by mid- wives	Percent white births attended by mid- wives
1	Gaston	43.95	.69
2	Alamance	17.44	1.11
3	Guilford	39.08	1.34
4	Durham	48.35	1.77
5	Forsyth	68.31	1.82
6	Mecklenburg	75.00	2.09
7	Orange	37.44	2.63
8	Buncombe	47.45	3.19
9	Cleveland	58.51	3.22
10	Rowan	59.29	3.77
11	Wake	63.05	4.70
12	Wilson	66.14	4.94
13	Iredell	66.83	5.04
14	New Hanover	73.91	5.05
15	Rutherford	42.40	5.29
16	Pasquotank	75.09	5.88
17	Lincoln	73.60	6.15
18	Rockingham	50.87	6.15
19	Davidson	44.13	6.35
20	Edgecombe	73.95	6.60
21	Richmond	70.40	7.43
22	Greene	62.12	7.45
23	Cabarrus	59.58	7.67
24	Wayne	59.84	8.22
25	Vance	76.87	8.62
26	Haywood	.00	8.89
27	Granville	59.90	9.03
28	Anson	81.09	9.09
29	Person	50.34	9.16
30	Yadkin	44.44	9.60
31	Chowan	70.98	10.14
32	Stokes	68.67	10.43
33	Currituck	74.66	10.75
34	Pitt	73.27	11.22
35	Lee	78.06	11.65
36	Randolph	55.17	11.71
37	Davie	67.53	11.76
38	Robeson	74.57	11.87
39	Lenoir	80.14	12.52
40	Chatham	68.44	13.21
41	Surry	21.05	13.75
42	Caswell	56.84	13.77
43	Union	59.10	14.00
44	Catawba	50.45	14.43
45	Duplin	68.09	14.52
46	Franklin	73.58	14.92
47	Clay	.00	14.96
48	Nash	64.24	15.02
49	Swain	36.36	15.67
50	Cumberland	77.52	15.87
51	Johnston	71.16	15.93
52	Henderson	46.96	16.10
53	Hoke	85.83	16.66
54	Polk	68.57	16.66
55	Halifax	89.46	17.82
56	Stanly	63.63	18.31
57	Moore	60.06	18.67
58	Caldwell	70.45	18.80
59	McDowell	25.00	19.20
60	Scotland	85.41	19.44
61	Harnett	76.66	19.88
62	Transylvania	.00	20.00
63	Montgomery	72.00	20.10
64	Pamlico	85.18	20.54
65	Northampton	87.65	20.57
66	Beaufort	72.18	21.24
67	Jones	85.71	22.08
68	Sampson	83.94	22.10
69	Craven	90.14	22.28
70	Alleghany	50.00	22.50
71	Bertie	89.61	22.56
72	Hertford	85.09	23.65
73	Cherokee	66.66	24.61
74	Perquimans	78.20	24.82

Per Cent of White and Negro Births
Attended by Midwives, 1925

Rank County	Percent negro births attended by mid- wives	Percent white births attended by mid- wives
75 Gates	86.95	26.35
76 Alexander	75.75	26.48
77 Camden	82.69	26.65
78 Martin	90.13	26.91
79 Onslow	85.34	29.49
80 Dare	100.00	29.65
81 Carteret	63.15	29.83
82 Tyrrell	92.85	31.64
83 Watauga	.00	31.95
84 Yancey	20.00	32.33
85 Burke	72.22	33.50
86 Jackson	53.84	34.92
87 Warren	91.74	36.31
88 Macon	16.66	36.71
89 Washington	94.79	37.24

Per Cent of White and Negro Births
Attended by Midwives, 1925

Rank County	Percent negro births attended by mid- wives	Percent white births attended by mid- wives
90 Mitchell	.00	38.49
91 Pender	97.03	38.84
92 Bladen	91.00	40.05
93 Ashe	12.50	41.03
94 Avery	20.00	43.37
95 Wilkes	84.14	44.25
96 Hyde	79.88	45.34
97 Graham	.00	49.27
98 Columbus	84.94	49.62
99 Madison	33.33	50.90
100 Brunswick	90.69	58.60

—The University of North Carolina
News Letter.

MIDWIFE AND MORTALITY STATISTICS

A picture of how North Carolina goes about the business of killing its babies and mothers was presented several weeks ago in a statistical study in the University of North Carolina *News Letter*, summarized in these columns. That picture revealed, among other things, that out of 37 states for which figures were available only ten had as high an infant death rate as North Carolina; and out of 30 for which figures were available only four had higher death rates among mothers. It revealed, also, that no foreign country where the statistics have been gathered is anywhere near as careless with its infants and mothers as North Carolina.

High among the factors for the unusual death rates was placed the midwife. She operates, of course, largely among negroes. Thus it was shown then that wherever the negro population was high, the infant death rate was high. Of the North Carolina counties the 23 with the worst records were all in the eastern part of the State except Forsyth, which has also a large negro population; and it is in the east that the midwife reigns.

The study is now continued in the presentation of figures to show the place the midwife still holds in North Carolina. The figures of death rates were for 1923; those for the activities of midwives are for 1925, but there could hardly have been much change in the two years. The result is what

anyone might have anticipated. In 1925 the number of white births was 57,904, of which 8,163 were attended by midwives, or 14.09 per cent. In the same year, of the 25,279 negro births, 17,825 were attended by midwives, or 70.55 per cent. Only slightly more than half the white births were attended by midwives in those counties which foot the list, Brunswick and Madison; and throughout the Piedmont section the midwife as an attendant at white births is hardly a factor. Thus of a group consisting of Gaston, Alamance, Guilford, Durham, Forsyth, Mecklenburg, Orange, Buncombe, Cleveland and Rowan the highest shows less than four per cent. The east and the extreme west continue to show the use of the midwife in greater proportion than elsewhere.

But among negroes the presence of the midwife continues almost universal. "In nine eastern counties more than 90 per cent of negro births were attended by midwives. . . . At least four-fifths of all negro births in the eastern half of the State are attended by midwives." In such counties as Brunswick, Columbus, Bladen, Pender, Washington, Tyrrell, Dare, Onslow, Martin, Camden, Gates, Hertford, Bertie, Craven, Sampson, Jones, Northampton, Halifax the figures run higher than 80 per cent. Moreover, a quotation from *The Survey* seems to indicate that North Carolina has more regis-

tered midwives than any other State—a first which has not received much heralding. For that matter, the State does not pay much attention to its high position among its sister states in the successful killing of infants and mothers.

The midwife is here to remain for many years.

Broadly speaking, three standpoints are taken in this country—first, the midwife must be abolished; second, the midwife had best be let alone and left to her own devices; third, the midwife should be raised to a higher plane by

proper State control and education. The first is impossible. . . . the second is unworthy of consideration. The third is at the present time the only practical way of dealing with the midwife problem.

It has not been dealt with in any marked successful manner thus far, and there are no indications of any unusual effort. The death rates continue barbarously high and the picture of what goes on remains—remains as it has been presented in the unforgettable first chapter of Julia Peterkin's "Black April."—*Greensboro Daily News*.

THE PRICE OF MATERNITY

The price of maternity to six hundred and ninety mothers in the State of North Carolina for the year 1925 was death. This is the most recent year for which we have complete reports. The fact that six hundred and ninety mothers gave their lives as a sacrifice to the perpetuation of the race means that eight and two-tenths out of each thousand giving birth to children that year died. There were various primary or direct causes which produced this high mortality. The greater number, however, succumbed to puerperal sepsis, known as childbed fever. In this case the fact that six hundred and ninety mothers died, for the most part needlessly, illustrates at least man's inhumanity to women. It has been more than three quarters of a century since Oliver Wendell Holmes in Boston and Semmelweis in Vienna demonstrated satisfactorily and incontrovertibly that childbed fever always follows infection, needlessly for the most part, contracted by the mother at the birth of the child, or just preceding or following that event. They demonstrated that surgical cleanliness prevents the most of these cases.

In a forceful analysis of the figures presented in the State Board of Health's vital statistics report for 1925, Professor S. H. Hobbs, writing in the *University News Letter*, has the following interesting comment on this matter in a recent issue of that publication:

"Not only is the infant death rate high in North Carolina, but also the

maternal mortality rate is high. The maternal mortality rate for the State was 8.2 per one thousand live births. During the year 1925 six hundred and ninety mothers were reported to have died from puerperal causes, that is causes resulting from childbirth. Six counties reported no deaths of mothers resulting from childbirth. The rate was highest in Jones County with 20.2 deaths of mothers resulting from childbirth per one thousand live births. In thirty-three counties the maternal mortality rate was above ten per one thousand live births. There appears to be some tendency for counties with high infant death rates to have high maternal mortality rates, but there are many exceptions.

"North Carolina makes an unfavorable showing in maternal mortality when compared with other states. Out of thirty states reported in 1923 only four had maternal mortality rates higher than North Carolina. There is no foreign country for which data are reported whose maternal mortality rate is anywhere near as high as North Carolina's. Our high infant and maternal mortality rates may be due in part to the fact that nearly one-third of all births in North Carolina are attended by midwives. Nearly twenty-six thousand were thus attended in 1925, more than eight thousand of which were births of white children."

The foregoing analysis of Professor Hobbs is interesting because it represents the conclusions of a straight-

thinking educated layman. We hope to be able to more completely analyze the figures for 1926. It will take an enormous amount of work and time, but in order to reach definite conclusions such an attempt will be necessary. For example, we hope to be able to ascertain definitely exactly how many of the deaths occurring in 1926 were among women who were attended solely by midwives, and if possible to obtain from the physicians or health officers signing the death certificates a statement from the physicians who were called in to treat complications after the woman was first attended by a midwife. Probably the figures, as appearing on the death certificates, would indicate that more of these deaths occurred in women receiving medical attention; but the death certificate does not state whether the physician was called in when an emergency developed after the midwife had first assumed responsibility. It is the experience of every young physician when starting out in practice to have more complicated labor cases during the first two or three years of his practice than at any period later on. This is due to the fact that midwives start with these unfortunate women among the poorer classes because of an economic necessity, and the young physician who has just attempted to start in practice is called in to assume responsibility after the development of serious complications, and he is called chiefly for the reason that, in bygone days at least, he would be prompt to respond. In the old days this was easy to explain, because the young man had to have an opportunity to demonstrate his skill, and that opportunity generally had to come after the established physicians had first the refusal of the requested assistance.

Influence of Precedent

Physicians, along with other classes of the population, are very frequently inclined to laugh at the lawyers and the courts on account of their unfeigned adherence to precedents. In this connection it may be well to recall that there is no more conservative profession on the face of the earth than the prac-

tice of medicine. The average physician, or group of physicians, is always slow to adopt new methods or to violate precedent; in fact, just as slow as the lawyer, and more so when considering the fact that if the lawyer violates a precedent it may mean simply financial distress to his client, whereas in the case of the physician any such violation generally means caustic criticism of the doctor, which for him is worse than any financial difficulties or distress to any lawyer's client. The very important specialty today known as obstetrics was sufficient it is said to bar a member of the medical profession from membership in the London Academy of Physicians a hundred years ago. In other words, up to that time a physician who practiced obstetrics was looked down upon as a disgrace to the profession. Only a little more than three hundred years ago the first law was enacted in Germany preventing ordinary shepherds and herdsmen from practicing midwifery among the women of that country. Therefore midwives have been a necessary utility for centuries, whereas modern civilization was exceedingly slow to recognize the necessity for expert medical care for its parturient women.

A reduction in the maternal death rate in this State may be brought about by providing every woman the necessary care at this period of her life. Physicians can help by being more ready to respond and devoting scrupulous care even to the poorest women they are called to serve. The licensing of midwives could be another step which would help a great deal. In that way a better trained and better educated body of midwives could be provided, which would save many a life. And last but not least, the prospective patient's family should apply for information to physicians or health officers or nurses that would enable them to protect these prospective mothers, by providing the proper minimum preliminary care, and which would enable them to note danger signals, and on the appearance of such immediately procure the services of a good physician.

DESTROY RATS AND MICE

A few months ago reports from the state of California were to the effect that an epidemic of mice had almost over-run a great big section of a county out there. The trouble was that a large lake had been drained and cultivated in grain with a result that as plenty of available food was provided for the mice they propagated in large numbers, and it seems migrated in search of food. It is an example of how important it is to aid the natural enemies of rats and mice in destroying as many of these pests as possible. Rats and mice not only destroy millions of dollars worth of property every year, but it is known that they harbor fleas, which become infected with disease, serve to spread Bubonic plague, one of the worst pestilential diseases in the world, as well as other affections.

There are many ways of destroying rats and mice for the householder in town who lives in a comparatively rat-proof house for the occasional rats and mice that get in and breed in the house. The ordinary flat board traps, which may be purchased at any ten-cent store, when carefully attended to every night serve to eradicate great numbers of the rodents. Where they are more numerous, for instance, in warehouses where available food is stored, especially grain, it is necessary often to resort to poison, which may be obtained at any drug store. When poisons are used, as in all other uses of such agents, it should be handled with extreme care so as not to endanger the lives of people or domestic animals. Rats and mice probably destroy a sum total in property in North Carolina every year equal to the amount of money it costs to run the State government with all its educational institutions, and probably a great deal more. Every intelligent, careful citizen should endeavor at all times to destroy as many of these dangerous pests throughout the year as possible.

WE ARE ALL SERVANTS OF RATS

Here is a most striking paragraph from a review of Dr. Wm. T. Hornaday's book, *The Minds and Manners of Wild Animals*. Says the reviewer:

"For intelligence, Dr. Hornaday awards the palm to the chimpanzee, followed closely by the Indian elephant. But the brown rat claims respect. 'I am,' says the author, 'reluctantly compelled to give the prize for the greatest cunning and foresight in self-preservation to the common brown rat, the accursed brown rat that has adopted man as his perpetual servant.'"

That is something that probably few of us have ever thought of, and yet it is absolutely true. Other animals and fowls serve us—horse, cow, pig, sheep, goat, dog, hen, goose, etc.—but rats we ourselves serve. The rat in the first place makes us provide a shelter for him and then makes us provide food for him and his disgusting progeny all the days of our lives.

"The rat has adopted man as his perpetual servant." Isn't the mere statement of the fact enough to make us mad enough to try to do something about it?—*The Progressive Farmer*.

THE ULTRA-VIOLET RAY A STIMULUS TO THE DEFENSE MECHANISM OF THE BODY

Among the multiplicity of disorders that have been cured or improved by the use of the ultra-violet ray either alone or in combination with other forms of radiant energy, Dr. Hernaman Johnson in the *British Medical Journal* mentions skin diseases, all forms of tuberculosis, rickets, various diseases of the blood and of the lymph glands, rheumatism and neuritis. That it is beneficial in such a variety of disorders is due to the fact that the greater part of organic disease is directly due to the action of circulating poisons, the majority of which are of bacterial origin. Leonard Hill and his co-workers have shown that carefully regulated doses of ultra-violet light raise the bactericidal power of the blood. The light has been proved capable also of activating in some degree all the defense mechanisms of the body against germ poisons. Consequently, the list of diseases in which it is of value is large.—*Good Health*.



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STATE CAPITOL AT RALEIGH



The State Capitol is considered one of the most beautiful buildings in North Carolina. Within it meets the General Assembly biennially, enacting laws for the State and making appropriations for the various divisions of the State government. The 1927 General Assembly appropriated \$430,000 annually for the next biennium for the protection and promotion of the public health.

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
Colds	Influenza	Tuberculosis Placards
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Chickenpox	Measles	Typhoid Placards
Diphtheria	Pellagra	Veneral Diseases
Don't Spit Placards	Public Health Laws	Water Supplies
Eyes	Prenatal Care	Whooping Cough
Flies		

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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VENTILATION A NECESSITY IN GARAGES

Information comes into this office to the effect that certain manufacturers of a kind of machine or apparatus for generating ozone are very busy trying to induce the owners of garages throughout the country, and especially in the colder climates, to buy this outfit for the purpose of generating ozone. They are claiming that this apparatus converts the very dangerous carbon monoxide into a less dangerous substance.

It has been demonstrated through experiments conducted by certain departments of the New York state government that even though large amounts of ozone are distributed into such at-

mospheres that its action on the dangerous monoxide is too slow for any considerable effect on the monoxide and so it would be worthless as a preventive or protective agent. It is another case in which fresh air and thorough ventilation in all garages, public and private, in which combustion engines are run is all that is necessary for safety and protection from dangerous gases.

Judging from past experiences, however, it is only natural to expect that many sales will be made in this State by the middle of next winter and much money carried out of the State by selling this thoroughly useless innovation.

THE PRE-SCHOOL EXAMINATION OF CHILDREN

Some years ago the National Congress of Parents and Teachers organized and promulgated what they called a "Pre-School Round-Up."

The idea is, by adopting this slogan and working through local parent-teacher associations throughout the country, all of which, according to the organization, are affiliated with the State and National Association, an effort is made to have all of the school children who are expected to be entered into school for the first time at the beginning of the fall session to be sought out and examined for defects during the early summer. Diagnosis is attempted through private channels, working through the family physicians; and through clinics established for the purpose by the association, in which the private physicians and health officers coöperate with committees appointed from the local parent-teachers association. When the examination is made in May or June, or as

early as possible, all children who have defects such as diseased tonsils or deficiencies in vision are catalogued, and the committees appointed for the purpose make an effort to see that such children receive the necessary treatment before the beginning of schools in September.

This effort is really a practical and common-sense enterprise. It is one in which most parents are glad to coöperate, and it certainly should be of value to the parents of children who are unable financially to pay for dental treatment or treatment required of specialists, and in this way some organized effort can assist the parent in obtaining the necessary treatment and so putting the child into first class shape before entering school in the fall. Every section of the State in which there is a parent-teachers association should lose no time in coöperating with the health authorities in getting this enterprise under way.

THE SALESMAN

The Rotary Club orators claim that every human being is a salesman—a salesman being a person who can sell an idea or a substance at a profit.

For instance, a baby is a salesman because he can raise a row and sell the idea of peace on earth good will toward men at a profit—the profit being a sufficient quantity of milk either consumed at the bar or furnished in a bottle.

A salesman must have a mind developed in proportion to the requirements of his job.

He must be able to concentrate, he must be able to hold the attention of his potential buyer and he must know when the buyer is convinced.

If the blacksmith fails to strike while the iron is hot he is a bum blacksmith. So the salesman who talks himself out of a sale after the buyer is willing to buy is a failure.

Next to the mental qualities of the salesman the most important factor in his success is health. A sick body usually presents a sick mind.

An invalid is not alert. Whatever you have to present to the world is better presented by a good presence than by a poor one.

Every type of human endeavor, with the single exception of the street beggar, is best represented by a healthy person. Age cuts very little figure if the salesman has health commensurate with the attained age.

As appearance is an important part of the health program you not only should feel right—you should look right. How long can one person hold the attention of another with a mouth that is full of decayed and abscessed teeth?

Where is the personal magnetism of one whose edentulous gums destroy diction?

Who can discuss the beauties of nature, art, or manufacture, with a mouth full of lean-to teeth?

How many people can be persuaded to sign on the dotted line if the salesman has sunken cheeks, deeply lined face, missing teeth, halitosis and skidding enunciation?

We are all salesmen and saleswomen. Why spike our own guns by neglect of any part of our bodies? A healthy person is the only one who can get complete satisfaction out of life.—*Oral Hygiene.*

ORGANIZED HEALTH WORK AND IMMIGRATION

A writer in the Elizabeth City Independent recently discussed somewhat in detail the report issued by special advisers of the United States Government on Reclamation and Rural Development in the South. As pointed out by the writer in the *Independent*, this Government survey indicated that two-thirds of the State's acres are unimproved. It states that of thirty-one million acres in North Carolina only eight million are being cultivated. The report also indicated that thirty per cent of the improved land is farmed by landless tenants. The Government's investigators also discovered that North Carolina lost one million six hundred thousand acres of cultivable land through abandonment of farms between 1920 and 1925. This statement can be easily believed by any person who travels about the State any at all. The abandoned houses and the abandoned

farms can be seen in almost any locality. Of course, North Carolina is no worse than the other states in the South, and, as stated by the *Independent*, is far better off in this respect than Georgia, South Carolina, Alabama or Mississippi. However that fact does not help us any.

It may be more than a coincidence that nearly two-thirds of the State's counties are still without organized health departments headed by whole time health officers. All of the civic clubs, the chambers of commerce, and the business interests of North Carolina are continually emphasizing, at their meetings and through the press, the necessity for a desirable type of immigrant farmers who will come into the State and locate on small plats of land and make a success through expert small farming activities, such as truck raising, poultry industry, and

dairying. Naturally the type of immigrant wanted is a healthy, independent type who has had ample experience in the kind of work it is wanted them to do here on the abandoned land of North Carolina. Such a type of immigrant is not going to leave a healthy locality of good schools, available markets, and first class living conditions in states like Iowa, Minnesota, or New York for any of our localities that do not moderately promise the same safeguard. One of the questions always asked by prospective immigrants is concerning the health conditions of the place at which they consider locating. They desire especial assurance from the standpoint of pure water, freedom from mosquitoes and malaria. All of this can be assured in most parts of North Carolina, but it will take intelligent effort, organized activity directed by full-time health officers, and the expenditure of some money to bring this about.

Sometime ago an experienced bank director, in making an address to a body of business men, including merchants, bankers, and capitalists together with lawyers and physicians, made the statement that loans by bankers always made the health of the applicant for the proposed loan and his life expectancy secondary only to his visible financial assets. This director went further and stated that in his experience as a director of the big bank with which he was connected, that it was not an unusual experience for a man who had good visible assets in the way of property, to have his loan declined because his blood pressure was playing around two hundred. In short,

a man may have a good business, may be prospering largely as a result of his own intelligent application and familiarity with his procedures, but, whose health not being good, may suddenly die, his estate go to pieces through faulty management, and the bank lose some of the loan or perhaps all of it.

The time has come in North Carolina for a consideration of public health work on a basis of pure business principles. For many years the development of preventive medicine activities in this State has had its inspiration largely in altruistic motives. Most of the efforts at disease prevention have been primarily concerned with the humanitarian aspects of the problem. This is well, and had it not been for this fact many men who have already devoted the best years of their lives to public health work in this State would not have been in it. It is necessary to still bear in mind and to treat with equal importance the demands of humanity and altruism; but at the same time it is necessary for the settlement and the cultivation of our more than twenty million acres of idle land in North Carolina to put these things on a purely selfish business basis along with the higher demands of humanity. Therefore we would like to urge on the chambers of commerce, the civic clubs, and the real estate agencies throughout the State that they pay more attention to preventive medicine as an inducement to the desirable class of small farmers needed to develop the State's uncultivated resources.

NEW BORN BABY A PERFECT MACHINE

The perfect equipment of practically every baby born into the world is one of the perpetual wonders of nature. The most perfect and highest priced automobile in the world, or linotype machine, or any other example of the finest art of man's inventive genius is not a thousandth part as perfect in every detail when turned out from the factory as a new born babe coming into the world under the shelter of a dirty hovel. Nature has seemed to provide almost every protection and every requirement for the intelligent safe-

guarding of the baby until delivered perfect into the custody of the baby's parents. Every one of the billions of cells in its little body is set for action. The muscular system goes into action with rhythmic precision. Its digestive system possesses one of the finest chemical laboratories in the universe. This laboratory is ready with its constant supply of such substances as rennin and pepsin and other things necessary to set the process of digestion to work at once for the preservation of life and the promotion of growth. The

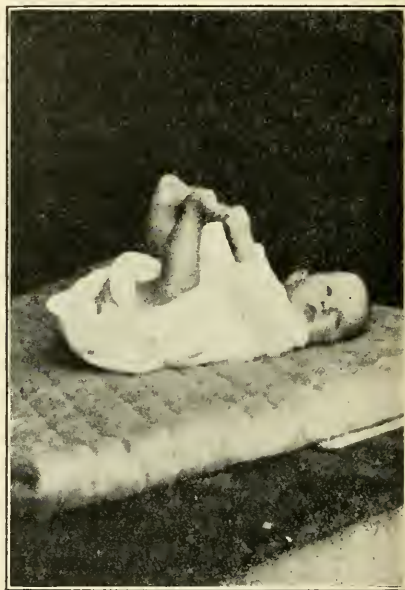
intestinal tract is filled with a substance which prevents dangerous collapse, and also sets up the beginning of a "system of contractions" known as peristalsis. For its protection nature has provided it with a certain degree of immunity which protects it from some communicable diseases for a varying period of time. Its heart, with an intricate system of muscles and valves and so on is a marvel of perfect workmanship. The blood system is circulating perfectly, the nerve system functions in the same way, and every special sense is likewise provided. In short, nature delivers a perfect package in every detail.

If there could be devised some method by which the parents could care for the baby from its advent into the world in a manner as perfect as nature has delivered it, the world would soon see a race of supermen indeed. The best that can be done is to strive to approach that ideal as near as possible. Let us mention only one item to illustrate how a baby may be materially aided by careful attention: When a baby is born, it knows no other method of breathing except through its nose. It does not breathe through its mouth. It matters not if later the baby shall be encumbered with adenoids and diseased tonsils, there is no such encumbrance at birth and for sometime after.

It is important that when a baby suffers from respiratory infection that it be aided in breathing. It cannot hawk and spit, nor can it "blow its nose" to rid its throat of accumulated secretions of infected material. A recent authority has suggested that a new born baby should be taught to sleep on its stomach in order that the drainage from the accumulated secretions in the mouth and throat and nose could come outside instead of to further hinder the breathing process through congestion. The same writer suggests that when a baby has a respiratory infection and congestion of secretion which accumulates in the nose and throat that the nurse could very materially aid the baby to recovery more promptly and with much greater safety by frequently removing the secretions of the nose with a blunt round-shaped medicine dropper. This is cer-

tainly a practical suggestion and could be easily done, and there could be no doubt that many babies would be greatly assisted by this one little act.

It cannot be too often called to the attention of mothers and nurses that the temperature of a room in which a baby is bathed should be warm enough to protect it from chill when receiving its daily bath. We have noted that invariably nurses are careful about the temperature of the water, but much less careful about the temperature of the



A Fine Young Citizen of Raleigh, Six Months Old and Interested in the Big World Outside

room. This is a matter of even more importance in the summer months than it is in the winter because of the fact that in the winter, especially in cold climates, the houses are kept fully warm enough and often too warm. But in spring and summer when adults feel comfortable, clothed as they are and active as they may be, they do not realize the effect that stripping a baby off and submitting it to a bath in a room, the temperature of which is comfortable to the adult fully clothed, may not be comfortable to the baby.

Another point that cannot be emphasized too often is the fact that in bathing a baby's head it should be thor-

oughly dried at once. If the head is bathed first and the body last and the thorough drying of the head left to take place along with the body, the few minutes elapse may suffice to make the baby feel very uncomfortable.

The matters of food and feeding and attention to bowels and kidneys and other protective measures are becoming

better known and need not be rehearsed in a pointed article of this character.

As in everything else in the world, it is the minute items of detail which often mean the difference between a healthy, happy baby and an ailing or diseased one. Let us repeat again that too much care cannot possibly be exercised in attention to these small details.

COST OF SYPHILITIC MENTAL DISEASE

A statement recently sent out by the New York State Department of Health quotes Dr. H. M. Pollock, director of the Statistical Bureau of the New York State Department of Mental Hygiene, to the effect that the annual economic loss due to syphilitic mental disease in New York State during the year 1925 was more than five million dollars. The cost of maintenance of patients in the state institutions whose mental disease was caused by syphilis during that year was considerably more than three quarters of a million dollars.

A conservative estimate of the cost of maintenance of such patients in the state institutions of North Carolina alone, not considering the cost to vari-

ous county institutions, cannot be less than two hundred thousand dollars per year. The loss of earnings of the patients in the course of a lifetime of idleness and illness would naturally run to more than a million dollars per year in North Carolina. It seems to us that North Carolina might well follow the lead of New York State and begin right now to develop a strong business system of mental hygiene, having as the basic plank in the foundation for the work a concerted action against the spread of social diseases in the State. If any progress is ever to be made along these lines, it must be achieved strictly through preventive work.

SOCIAL HYGIENE

We do not offer any apology for frequent reference in these pages to the prevalence and dangers of social diseases. We feel like apologizing to our intelligence as a so-called civilized body politic for having to do so however.

In a recent letter from the Director, Division of Social Hygiene of the New York State Department of Health at Albany, calling attention to a pamphlet just issued by that Board in coöperation with the United States Public Health Service, the following paragraphs occur:

"You will notice from the chart of 'Leading Communicable Diseases' in the enclosed pamphlet that syphilis and gonorrhea were more prevalent in 1925 than any other single disease, exceeding even the incidence of measles.

"The public generally does not appre-

ciate the significance or prevalence of syphilis and gonorrhea because the infected person does not talk about his affliction freely; because frequently it does not show on any exposed parts of the body; and finally because the disease usually does not confine the infected person to his bed.

"In the case of syphilis and gonorrhea, the public is confronted with diseases that are not only very prevalent but that are also most serious. They surpass all others in their devastations, if permitted to go untreated. In fact, syphilis is considered to be one of the greatest killing diseases. In addition to being prevalent and responsible for a tremendous amount of mental and physical suffering, they are transmissible diseases. Many adults and infants are infected innocently."

ILLEGITIMATE CHILDREN

This is not a subject that nice people like to consider; but it is one that they should seriously think about with the increase of population in the cities and towns, with the consequent gradual reduction of the population in the strictly rural districts, with the increase in apartment-house living and thickly settled neighborhoods and the decrease in the satisfying home life, which is a problem that is not likely to be less in the immediate future.

During the year 1925 three thousand six hundred and three illegitimate children were born in North Carolina. Every county in the State, with one single exception, reported somewhere between a minimum of two and a maximum of one hundred and sixty-four such births. While this number represents only about four per cent of the total number of children born in the State, it is large enough to demand serious consideration.

The point, however, we wish to make in this editorial is the fact that we people in North Carolina are not doing our duty by these little Ishmaelites or their unfortunate mothers. A recent issue of the *American Journal of Social Hygiene* contains some interesting paragraphs on this subject. The editorial quotes the writer of an article in the *Survey* who had made a study of this question in Europe. That writer "points out that European child welfare work differs from ours in general in that more of it is supported by public funds than is the case here. She believes that America has much to learn from some of the solutions that these other countries have evolved, especially since the war."

The *Journal of Social Hygiene* aforementioned describes something of the methods produced in the different countries of Europe. In France confinement takes place in a hospital. If the mother is a working woman, she may place her child in what is known as a "center." These centers are receiving homes and milk stations combined from which the children are boarded—in private homes. When necessary, the public nurse visits such children daily and if

one of them becomes ill, it may be brought from its boarding home into the center, where hospital facilities are provided, and remain at public expense until it is well. The mother is assisted in paying her child's board until it is three years old. In Holland they have a satisfactory combination of public and private support in which the unmarried mother and her child are guaranteed the necessary care. They have many organized agencies which concern themselves with the problem of illegitimacy, including the legal problems. When the paternity of the child is established, the father is forced to pay whatever amount the court fixes every week until the child is sixteen years of age. In Czecho-Slovakia the father is forced to pay one-eighth or one-ninth of his wages unless he is well-to-do and able to pay whatever the court requires. He is generally made to pay for the higher education of the child and for its support beyond the ordinary age limit if the child is defective or crippled. In Austria, especially in Vienna, which is now a city of more than three million people, they have eighteen special workers devoting their time exclusively to looking after such children and their mothers, their work being divided into districts. The Austrian social work is also combined with the nursing work in the person of a special worker. This woman is especially concerned with the inspection of institutions for children, the day nurseries, conduct of health centers, and the general work of the health visitors as applied to the welfare of illegitimate children. In Austria the father of an illegitimate child also is required to pay not less than fifteen per cent of his wages until the child is fourteen years old or through high school. When the father contests the action, the court collects the judgment, and failure to pay when able results in a penitentiary sentence of five years. In Austria also, as in France, the births take place in hospitals. There is very little or no child abandonment and no messing with such farces as "baby farms." In

Austria they also have a system of national maternity insurance which amply protects the mother and the baby.

We thoroughly agree with the writer in the *Survey*, when comparing the

often cruel treatment awarded these unfortunates by our people with the humane attitude in Europe, that America, and especially North Carolina, has much to learn from some of them.

ONE GARDEN REPORT

We are publishing elsewhere in this issue a detailed account of how one Duplin County woman was able to secure large dividends in money, in health, and in satisfaction from a year-round garden. This the readers of record of the BULLETIN will readily understand is a matter that we have been preaching through these columns for many years. Every reader of this BULLETIN can certainly profit by reading the general account of the Warsaw garden. There are about three main things to note especially in the article. The first is the intensive, persistent year-round attention the owner gives to her garden; second, the matter of fertility of the soil and drainage, especially the item of tile drainage; and third, the artificial irrigation or watering given to the garden in times of drought.

If the Government of the United States stands and continues to prosper,

sometime in the future,—it may be a hundred years or it may be a thousand years—the area of what is now North Carolina will sometime support millions and millions of people. Through scientific improvement of soil and careful attention and hard work, with diversification of crops, North Carolina will be one great garden area from the far stretches of the Smokies to the Saltwater Beaches of the East. From the first advent of mortal man in this earth the prime consideration for individual, family, communities, states, and nations has been always the provision of food. It will be noted in all historical documents that pestilence always follows in the wake of famine. The possibilities for intensive gardening in this State are almost unlimited, and as population continues to increase, increasing markets will be provided right at the door.

PATENT MEDICINE MULTI-MILLIONAIRES

The past spring has witnessed the demise of two great moguls in the patent medicine world. Both of them left vast business interests and millions and millions of dollars when they passed on. One of these moguls left a fortune, as estimated by the newspapers, of nearly one hundred million dollars. This manufacturer was famous for a half century nearly as the maker and seller of a patent pill called something like DeBunk's Little Early Messengers. We should like to think that these gentlemen represented the last of their line. A type of brainy, shrewd, small town character who knows people, and who knows that human nature remains about the same all the time and everywhere. The type that realizes that the only way great fortunes can be made is through connection with articles having a daily universal use. The facts of history however refute

any such thought. Legitimate, educated physicians from the days of Hippocrates have made consistent war on the people and interests who have made it a business to exploit human suffering. They have done this because they know the difficulty of diagnosis and treatment when directed by a competent medical man; and therefore they know the fallacy and danger as well as the utter uselessness of promiscuous self medication. The age old answer to the physician's fight on such a rotten business has been that the doctors are selfish and entertain their position for professional gain. The charlatans and quacks of every description of course keep alive and encourage such a sentiment by every means at their command.

In a recent speech a great medical teacher of Boston was quoted as saying that about the only way he knew

now-a-days to get a boy to devote much time to reading good books was to place a cigarette and a book side by side and forbid the boy to read the book, but help himself to the cigarette. Tell the boy the cigarette was good for him but the book dangerous. His speech was an essay on human nature. Sometimes we think if physicians would pass resolutions in the medical society meetings urging people to buy and consume patent medicines, it might be a good way to put the brakes on the widespread use of useless and harmful so-called drugs.

The manufacturer of various concoctions for promiscuous sale to the public bases his success on the universal custom prevailing in the past of "tonics" and "blood purifiers" for every ailment. What adult living has not had his share of "spring tonics" forced down an unwilling young throat by a stern and conscientious parent. Castor oil was king of the terrors. It led the procession of sulphur and molasses, sarsaparilla, sassafras, bone set tea, ague remedies and so on. After all, this was homemade stuff. It was for the most part harmless. When the "Course" was over the parent thought his duty discharged and the young victim enjoyed comparative immunity from further such indignities that year. True, if a youngster so much as sniffed or sneezed a time or two, he was immediately rubbed down and greased all over with hot tallow or suet or hog's lard and forced to drink about a quart of flax seed tea before being put to bed under all the spare quilts in the house. Today the substitute for all this stuff is purchased at a good price. It bears a fancy label and has a wonderful name. The liquids have a beautiful color and the salves have an odor to be remembered when one box is gone

and another needed. What is more important the daily and weekly papers carry attractive advertisements the year round, frequently illustrated by the picture of some smiling neighbor who has just been snatched from the edge of the grave by using a bottle of So-and-So's Life Saver, when "all the doctors had failed" of course. In order to find out for yourself whether or not people are buying all these products, you do not have to wait until one of the millionaire manufacturers dies and the size of his fortune is listed, or for one of them to be loudly protesting at the corporation or income tax; but simply look in your own and your neighbor's medicine closet and check up.

Some fifteen or twenty years ago the reformers, would-be-reformers and so on made a valiant war on the whole grand fraud. For a time it looked as if the public would wake up and do some thinking. After the battle was over and while the "reformers" were celebrating their "victory," the "patent" medicine people like the good machine politicians they are quietly closed ranks, came back as "big business," "vested interests" and so on and are today probably more prosperous than ever. And as usual the consuming public pays the bill. So from a health standpoint the present habit of spending money for brilliantly advertised medical concoctions of all kinds, is much more harmful than the old time sulphur and molasses era.

* The conclusion of the whole matter is that the use of plenty of pure water internally and externally administered, together with outdoor work or exercise in the sunshine and fresh air; and a commonsense diet balanced to suit the season, and the individual will do more toward "toning up" than all the patent medicines in kingdom come.

LENGTHENING THE SPAN OF LIFE

A syndicate writer on medical subjects has the following paragraph in a recent publication:

"It has been stated that the average span of life in this country has increased in the last century from thirty-three years to over fifty years. If this is true what are the causes?

"First, the control of epidemic diseases, illustrated by the preventive measure of vaccination which has practically eliminated smallpox. Other scourges such as typhoid fever, diphtheria and measles are now largely prevented by control of infectious sources and well organized health departments.

"Secondly, broad educational plans of preventive medicine and periodic health examinations brighten the chances of human life. Life insurance companies have played a notable part in this phase of the work.

"Thirdly, a better knowledge of personal and public hygiene, dietary rules and the systematic development of physical exercises in the home, school and outdoor sports contribute to the same end.

"Lastly, the improved treatment of tuberculosis has reduced it from its position as the greatest cause of death to a secondary place.



Some Greensboro Friends. July Weather Gets All Ages Out in the Open

"Reasonable expectation of prolonged life will be further increased when medical science has discovered the cause and cure of cancer and men and women have learned to live less strenuously."

The foregoing is an interesting commentary accentuating the requirements of a personal periodic health examination at intervals of one year, or better six months. This periodic examination, while often necessary and practical for people of all ages, including even young people, should become an essential habit for people past middle age.

The prevention of disease embraces one of the greatest fields of activity in relation to mankind. More than half the diseases the human race is heir to can be very easily prevented either outright or controlled in their incipient stages. It has become a habit, of course, for the owner of an automobile or a mowing machine or other piece of expensive and valuable machinery to have it carefully gone over at periodic intervals for the purpose of discovering anything wrong with the mechanism and so correct such defects immediately, therefore saving life or preventing the deterioration of valuable property.

It may be that this habit is looked upon with more favor by the general public because of the age old respect for property values. This is natural when we come to realize that only two or three hundred years ago in one of the most civilized countries in the world the life of a rabbit in the woods of a nobleman was valued a great deal higher than the life of a man, if the man happened to be a peasant or a poor man. Evidences of this evaluation were set forth it is said in numerous records where these unfortunate individuals were promptly hung or shot for the crime of poaching a rabbit from their rich neighbor.

The same feeling exists in the subconscious mind of many people with reference to the law regarding the registration of births of children. Several states in the Union even now do not have an effective law on their statute books. The habit of registering pedigree dogs and cows and hogs and so on goes back almost to where the memory of man runneth not to the contrary. The only reason that can be assigned is that the dog or the hog represents a money value, and if pedigreed or blooded it naturally represents a greater money value than the ordinary cur or razor-back.

It is to be hoped that the public will grasp the significance of a careful systematic examination by a competent doctor whether the individual suspects any physical defect or not. It is a good habit to get into and, like the above quoted writer points out, will be one good method of further extending the span of life.

LIFE ENDED BEFORE TWENTY-FIVE

To the young boy or girl enjoying youth and abundant health, it seems an infinity of time before the age of twenty or thereabouts is achieved. Time, the years promised to them seems to stretch out in an endless procession. If a thought is given to the problem of old age it is only a passing one, and it is deferred as something that may be possible but which is a long time in the future. Such things as disease and death, poverty and suffering, disappointment and lost illusions are altogether foreign to youth and health. It may be a wise provision of nature to guard us from premature suffering and disillusionment as long as possible for the benefit of the race. But if youth and health could know and realize fully some of the things, it would save many a check prematurely drawn on the Bank of the Future.

While no race, age, sex or clime is exempt, diseases like typhoid fever and tuberculosis take the greater part of their most valuable toll from the ranks of comparative youth. The terrible venereal diseases are almost altogether diseases striking their victims under thirty. The effects of their ravages however pursue the victim throughout life. It is essential to build sound physical health and good moral character along with achieving an education and making money if genuine satisfying success is to be expected.

Back in student days one of the closest friends of the writer for the whole four years in college was a classmate, a fine upstanding young man of exemplary habits. He had the finely chiseled thin lips, high forehead and piercing eyes of the perpetual student. A mind always curious and reaching for more information. He was of frail physique and seemed to care nothing about it. He never missed an answer propounded by a professor in his college course; and if he did not make 100 on every examination, it was because he knew so much about the subject and wrote so much that time would be called before he got down to the last of the questions. After it was all over and he located in the town of his choice for the practice of medicine and met life face to face, he succumbed to a

preventable disease and died within three months after graduation. Dead and buried and life ended at the age of twenty-four. All his hard work and the knowledge that he had so carefully and painstakingly acquired went down before the onslaught of a tiny bacillus. The knowledge and fine service that such a man had ready for a wide circle of people who then as now needed it so much, seemed wasted.

Twenty-two years have gone by since we received our diplomas and scattered to the four quarters of the earth to practice medicine. Most of the class are still living. Most of us have done only mediocre work, like most all other classes going out from all other colleges, since the beginning of college history. This young man was different. Morally he was the equal and intellectually the superior of any member of the outfit. What he might have accomplished in the profession and in the world at large during these two past decades can only be surmised. We only know that he possessed most of the requisites for success.

Looking back now through the eyes of retrospection in a cold, critical, impersonal view of our regime during the period it seems that we can see more ways in which our friend failed in the main essential thing—preservation of his health—than would have seemed possible at the time. He never went inside a gymnasium during his college course. He could rarely be induced to take a walk. He seldom relaxed in any way. He had no time to read the newspapers. The theatre knew him not. He only went to church occasionally and only then to keep from lying in his letters to his mother. We have seen him sit in a crowded congregation with everybody else under the spell of Lyman Abbott's incomparable philosophy, secretly glancing at his watch and counting the minutes until he could get back to "Tyson on Practice of Medicine." He insisted on keeping his room hot. Night air gave him the sniffles so he said, and therefore he preferred to sleep with windows closed. He took liberties with his stomach that would have killed a lumber-jack. If he got interested more than usual in a

reference book or lecture on medicine or surgery he forgot all about mealtime. When he did eat the coffee had to be black and very hot and he wanted an abundance of sweets especially what he called "plain cake." He had the pill and tablet habit down to a scientifically irreducible minimum. He bought his pills and tablets by the pound. He did not use tobacco and never took a drink of intoxicating wine or liquor in his life. He was simply deficient in the

positive health building practices regarded so essential now by everyone. We often think of that village graveyard in the hills of Virginia where the turf has long since fallen in, and where the blossoming wistaria sheds its fragrance; and wonder how much the world has lost through the premature death of so many of its men of genius, deaths for the most part nearly always due to the violation of all ordinary laws of good health.

FOOD FOR GERMS

The fear of famine and the quest for food is an age-old instinct, present in the mind of man and in the lower animals, at all times. But how many of us have ever stopped to think that the microscopical forms of life do much of their damage to mankind in order to provide food on which to live. A writer in the *Connecticut Health Bulletin* makes the following interesting comment in an article on "Gunning for Bacteria": "Germs, or microbes, or bacteria, are found in the air we breathe, the water we drink, the food we eat, and upon everything we touch. The varieties that cause disease are able to grow inside our bodies and, in order that they may get food on which to live, they destroy our tissues and organs producing poisons and toxins that cause human disease and death."

One of the appalling facts of nature is the universal habit of a large portion of the animal kingdom, including man, of destroying other forms of animal life for food.

The story has been frequently told of a medical research worker, who in the course of a scientific lecture was heckled by a group of people who were fighting the use of animals such as rabbits, rats, dogs, and so on in research work, on the ground that vivisection is cruel. They could not bear the idea of a rabbit losing its life in a painless manner, even to provide the necessary material to save a baby's life. This particular lecturer knew that these people who were disturbing his lecture were owners of large orchards and truck farms. He knew that they scrupulously practiced spraying their fruit trees and potatoes, etc.,

with poison solutions in order to kill the animal life that was damaging their fruit and truck. So the lecturer let them put out their usual palaver about the sufferings of the poor little mice and rabbits in the laboratory. The usual ignorant, inconsistent tirade of the anti-vivisectionist. The speaker then turned to the rest of the audience and called attention to the spraying operations of their heckler friends, with the mild suggestion that a potato bug had as complex organism and valued its life fully as much as a laboratory mouse could its own. Church was then out.

Moral: Formulate it yourself.

KEEP YOUR MACHINERY FIT

Under the above heading a manufacturer of breakfast foods sends out the following little poem, written by John Kendrick Bangs:

You know the model of your car,
You know just what its powers are.
You treat it with a deal of care,
Nor tax it more than it will bear.
But as for self—that's different;
Your mechanism may be bent,
Your carburetor gone to grass,
Your engine just a rusty mass.

Your wheels may wobble and your cogs
Be handed over to the dogs.
And you skip and skid and slide
Without a thought of things inside.
What fools, indeed, we mortals are
To lavish care upon a car,
With ne'er a bit of time to see
About our own machinery!

HOUSEHOLD FUMIGATION

Soap, Hot Water and Sunshine the Chief Ingredients for Effective Fumigation for Small Householders

Not so many years ago it was a legal requirement that all householders should have their rooms or houses thoroughly fumigated with some approved type of chemical, assuring gaseous penetration before a quarantine placard could be removed. A lot of physicians and health officers were skeptical about the results of this, but for a long time the majority opinion held that it was necessary for safety to the public. Dr. Charles V. Chapin, the courageous health officer of Providence, Rhode Island, almost single-handed, about fifteen years ago, proved that most of it was fallacious and useless, and unnecessary trouble and expense to everybody concerned. Dr. Chapin made his experiments, and proved his case in opposition from all recognized authorities at the time from the American Medical Association down. He stuck to his guns and thoroughly proved his case, which is now recognized all over the country. There can be no estimate as to the vast amount of money and time and trouble that Dr. Chapin's experiments have saved to the people of this country.

Today almost everywhere the approved type of fumigation for the small home-owner, following a case of communicable disease which terminates in death or recovery of the patient, is a thorough application of soap and hot water and plenty of sunshine and fresh air. Soap, properly used, is a well-known germ chaser. For example, if North Carolina people would establish as thoroughly the habit of washing their hands with soap and water before eating food or otherwise putting their hands to their mouths as they have established the habit of shaking hands with everybody met, a good many diseases could be almost eradicated. The world is literally full of bacteria, invisible to the naked eye, the vast majority of which, fortunately for mankind, are not only harmless, but beneficial to human existence. But there are many kinds of bacteria or germ life which is exceedingly dangerous.

The typhoid bacillus, for example, is a germ that is easily carried on the hands to the mouth, where it can gain access to the digestive system on food or otherwise, and therefore spread its havoc to the individual victim. There are many other germs which can also be carried about in this manner. A good application of soap and water before meal time regularly, and at any other time necessary to handle articles put into the mouth, could prevent much disease. Following a case of measles, for instance, instead of burning a lot of sulphur or setting off a vast amount of formaldehyde gas to penetrate all over the house and to retain an offensive odor for months and months afterward, the simple requirement of scrubbing with hot water and soap and boiling all clothing or washable material used in the room of such a patient, together with exposure to sunlight for several days of unwashable clothing or bedding, is every whit as effective, and much more so than the chemical fumigation formerly resorted to. Naturally in this new and modern process the excretions from the patient of every character are promptly destroyed by burning or otherwise, making the clean-up process thorough from day to day. So, among other modern facilities for making life safer, the use of soap should be classed along with some of the other available helps, and should be utilized by all classes of people.

HEALTH IS EVERYTHING

With health, everything is a source of pleasure; without it, nothing else, whatever it may be, is enjoyable; even the other personal blessings—a great mind, a happy temperament—are degraded and dwarfed for want of it. It follows from all this that the greatest of follies is to sacrifice health for any other kind of happiness, whatever it may be, for gain, advancement, learning or fame. Everything else should rather be subordinated to it.—SCHOPENHAUER.

SCHIZOPHRENIA OR DEMENTIA PRAECOX

By JULIAN W. ASHBY, M.D.

Member of Staff, State Hospital, Raleigh

Dementia Praecox literally means dementia at puberty, but it is a misnomer, as those with this malady do not always dement, and the onset is not always at puberty.

All persons have two parts in their make-up: the syntonoid and the schizoid types. The syntonoid are in contact with reality, logical and well adjusted. In the schizoid type the contact with reality is not so firm. As the term is more descriptive, Schizophrenia is frequently used instead of Dementia Praecox.

Of the 250,000 patients in mental hospitals in this country, approximately 40 per cent are cases of Dementia Praecox. Patients with Dementia Praecox are twice as numerous as persons in hospitals for tuberculosis. Each year 50,000 new mental cases are admitted to our State hospitals, of which approximately 25 per cent are diagnosed Dementia Praecox. The disease at times runs a chronic course; at times in shifts. It may become stationary at any stage, or may regress a certain distance, but probably does not permit of a complete restitution of intellect. It is characterized by a specific kind of alteration of thinking and feeling, and of the relations with the outer world that occur nowhere else.

The following features are characteristic, although naturally they do not occur in every case of Dementia Praecox.

1. Seclusive make-up.
2. Defects of interest.
3. Discrepancies between thought, behavior and emotional reaction.
4. Emotional blunting, indifference, silliness.
5. Defects of judgment.
6. Hypochondriacal notions.
7. Suspiciousness and ideas of reference.

8. Odd, impulsive, negativistic conduct, usually without relation to emotional disturbance, and often with a clear sensorium.

9. Artistic thinking, dream-like ideas, feelings of being forced or of interference with the mind from the outside; physical and mythical influences.

In the Paranoid type delusions, particularly of persecution, of grandeur, and hallucinations are prominent.

In the Catatonic type there is negativism, stupor, stereotyped behavior, and waxy flexibility and hallucinations.

In the Hebephrenias there is silliness, smiling, facial grimaces, mannerisms, and peculiar ideas.

In the Simple type interest is at a low ebb, there is apathy and strange behavior, and delusions and hallucinations are either abortive and fragmentary, or absent entirely.

In one textbook, the individual is symbolized by a circle and normality or sanity is equivalent to perfect contact with reality or environment at every point. On the other hand, mental disease is synonymous with unreality, of which there are many grades of severity, pictured by the smaller circles included within the circle. The zone of defense is the amount of resistance which a given individual is able to interpose against the development of a psychoses. It is obvious that the defense zone not only varies in different individuals, but also that it cannot be static and, therefore, is never the same at any two periods in the life history of an individual. The thickness of the zone of resistance is dependent not only upon inherited, intrinsic, and constitutional derivations and weaknesses, but also upon acquired and environmental handicaps and liabilities, among which must be included every possible type and degree of psychogenic stress and somatic strain. Thus, the development of a psychosis usually may be interpreted, not as an acute process, but as a gradual impairment of resistance, either because the latter was intrinsically insufficient to meet ordinary demands, or because the demands became too frequent and

too severe, or commonly because both conditions existed. A woman who develops a psychosis following the process of labor is an example in which the zone of resistance has given way under a normal female function, and such cases are classified as Dementia Praecox. Heredity is an important factor in the production of mental disease, and it is said the praecox breeds true to form. Andre Tridor, however, states, "Most of our heredity is a pseudo heredity, which being simply the shaping influence of our environments, can be defeated as soon as we realize that it is not working for our welfare." He cites a case where a woman was reared as an irresponsible person and later made an unpleasant marriage. Instead of re-educating her, she accepted her relatives' dictum that she was crazy and became crazy. Dementia Praecox, then, is an escape from reality. If one's environments become unpleasant, if a marriage is distasteful, the psychoses develops as an escape from it, and the individual flees into his phantom world, and, in the praecox, builds up air castles, and is usually a happy person. For this reason, Freud

does not attempt to psycho-analyze his praecox cases. The analysis, if successful, would simply destroy the world into which the praecox has escaped and enjoyed, and if this is accomplished, you would leave him desolate. Brill, however, does analyze them. The unconscious wish is really behind the nature of a person's behavior, and the basis of so-called mental sickness.

The treatment of praecox would first of all be preventive measures by studies of childhood psychopathology; mental hygiene in schools; better adjustment of pre-psychotic individuals as well as of so-called normals. Institutional care of patients during outbreaks to prevent suicide and protect the community; removal of infection and accompanying disease. Frank discussion of a patient's problems and assets, and the situation he has to meet. Psychoanalytical procedures may be a help in early cases. Occupational therapy to produce action and restore self-confidence. Careful psychiatric social service follows up and supervision may reclaim many of these individuals after they are discharged back to the community.

VULGAR SHOWS A HEALTH MENACE

By JOHN P. KOEHLER, M.D.

Commissioner of Health, City of Milwaukee

The most discouraging problem that every Health Department has to deal with is the control of venereal disease. It is difficult to control, because it is so closely related to sex matters. While a great deal of venereal disease may not be caused by immorality, nevertheless, the opinion prevails that immorality is responsible for all venereal disease, which makes the health officer's attack on the problem still more difficult.

During an epidemic of influenza, scarlet fever, and other serious contagious diseases, the health officer would almost be considered negligent if he did not close certain public places that might increase exposure to the epidemic disease. There is no reason why the same attitude should not be

taken toward the control of venereal disease. The only difference between venereal disease and other contagious diseases, as we see it, is that venereal disease is present in epidemic form at all times.

There is always more venereal disease in the city of Milwaukee than there are of all other contagious diseases combined, excepting, of course, the seasons of epidemic colds. If venereal disease is always epidemic, not only in Milwaukee, but in all cities, there is no reason why the health officer should not be vitally concerned in public places that encourage those practices, which many times are responsible for an increase in venereal disease.

Exposure to venereal disease depends a great deal upon the self-control of individuals. Vulgar shows, whether they be in the form of motion pictures, vaudeville, or drama, are responsible for more exposures to venereal disease than any other factor. The automobile, intoxication, and immodest dress may all encourage exposure to venereal disease, but none as much as do some of the modern shows. Nothing seems more inconsistent or more unjust to us than for a city to permit shows to teach prostitution, and then arrest those who practice it. Venereal diseases, like all other diseases, are more easily prevented than cured. We never will be able to do much along the line of prevention by merely arresting those citizens, when caught,

who expose themselves and others illegally. We feel certain that much more will be accomplished if more attention is given to those conditions and places that preach sexual immorality, which is responsible for a great deal of venereal disease. Nothing can be accomplished by merely ordering the houses of ill-fame closed, unless those conditions are remedied which create the demand for houses of ill-fame.

Milwaukee is to be congratulated for its recent stand against vulgar shows. Every vulgar word and act eliminated from the screens and stages of Milwaukee will not only help to reduce venereal disease in Milwaukee, but will also help to prevent many deaths in the future from this terrible disease.—*Milwaukee Health Bulletin.*

ABOUT THE MAILING LIST

During the past two years we have restricted the circulation of the BULLETIN to those persons only who have requested that it be sent to them, or who have requested that it be sent to a particular friend. We have therefore been holding each issue to conform to this regulation, and have now approximately twenty thousand names on the list to which the BULLETIN goes each month. We are very anxious for any family in North Carolina who desires this BULLETIN to receive it; but we are equally anxious to prevent waste in the circulation, and we do not want to send it under any circumstances to any address where it is not desired.

It is natural in a circulation of twenty thousand, which is not only State-wide, going to every county in the State, but to every State in the Union, and to some foreign countries, that there should be a considerable turnover in the mailing list. Occasionally some person who is receiving the BULLETIN, after having requested it, will move to another address, and the BULLETIN will continue to be sent, of course, to the original address. In such cases, unless the family at which address the BULLETIN continues to go desires it, and utilizes it, it is a dead loss to the State. Sometimes the recipients of the BULLETIN, in such places and under such circumstances, will continue to let it come on, preferring

to throw it in the waste basket instead of taking the slight trouble necessary to notify the postoffice department that the original receiver is dead or has moved away. The postal authorities, we have found, are very careful in checking up these things for us; but in many cases they themselves do not know about changes taking place, and so are not able to notify us to discontinue sending the BULLETIN.

We are very much pleased to know that requests to receive the BULLETIN by people throughout the State have increased a great deal during the past few months. During the month of April we received more than nine hundred individual requests for the BULLETIN. This indicates a gratifying appreciation of our efforts in attempting to provide some information of value through each issue of the publication.

Any householder desiring to receive the BULLETIN may procure a copy once a month by sending us a request, giving the correct name and postoffice address.

The baby born in the United States today has a reasonable expectation of eleven years longer life than his father had.

The chief saving of life has been in the earlier years of life. The baby death rate is less than one-half its former figure.

EMBATTLED MOSQUITOES

Communiqués issued from headquarters at Atlantic City indicate that next year's campaign against New Jersey's old enemy will command all the engines of modern science. Flatfoot caterpillar tractors are to pound over the swamps, dragging mowing machines after them. Teachers on vacation are to be turned into minute men, hunting the mosquito with an oil can. Cresylic acid is to be put in the oil to make it spread better. Gambusia are to be brought north to prey upon the mosquito. Some of the little fish are already in the marshy pools, but will they live through the winter? A Canadian entomologist says that the Dominion has succeeded in keeping them alive even through its rigorous winters—but that was in pools fed by the hot springs of Banff. He pins his faith on the powdered root of the derris plant,

to be imported from the Malay Peninsula and shot at the mosquitoes from an aeroplane.

Some of the veterans scoff at these newfangled notions; are cool, even, to William E. Donnelly's scheme for a combination canal, dike, and motor highway along the coast, which would drown the mosquitoes, redeem the flats, and enable New Jersey farmers to "draw a check on the mud bank." The old-timers prefer to rely on the tried methods of ditching, draining and oiling, with perhaps a little speculation in gambusia on the side. They have learned from hard experience that they cannot relax their efforts. Mosquitoes are a good deal like the spoils system—exterminated long ago by all accounts, but apparently still very much alive.—*New York Times*.

DR. GLENN FRANK ON PERIODIC EXAMINATIONS

Dr. Glenn Frank, president of the University of Wisconsin, says:

"If I were twenty-one, and knew all that I know at thirty-seven, I should give systematic and sustained attention first to my health.

"I should begin at twenty-one to forestall that physical slowing down that comes to the careless man in his late thirties or early forties. I should avoid becoming self-conscious about my health. I should rather be a dyspeptic than a neurasthenic, but I would begin at twenty-one, when all my bodily processes were functioning flawlessly, paying systematic attention to keeping myself fit.

"I should avoid health fads. I should take all my advice from a reputable physician. I should have a thorough physical examination at least twice a year. In the line of these semi-annual examinations, I should really follow my physician's advice, regarding diet, exercise, working habits, clothing, the ventilation of my home and office, and so on, and I should not economize on doctor's bills. At the first hint of illness or irregularity, I should go to my physician on the theory that I should rather have him

keep me well than cure me after I fell sick.

"Some geniuses have done magnificent work with frail and diseased bodies, but for most of us success and happiness will depend in no small measure upon the physical energy we can put as a driving force behind our abilities, and even the geniuses would do better work with better bodies."

Dr. Frank has given advice here that every person in North Carolina should immediately proceed to take. Dr. Frank might have added that if one has not begun to conserve health at twenty-one, they should begin at thirty-seven, and if not at thirty-seven, sixty-seven. Again, he might have added that the physical examination of children semi-annually is of tremendous importance to the safety and physical well-being of the family. This opinion and program of Dr. Frank is most heartily endorsed by North Carolina's State Board of Health.

The sunrise surely makes a hit
Inspiring and immense;
But what most people know of it
Is hearsay evidence.

—*The Grapevine*.

FATIGUE AND BADNESS

By The REV. WILLIAM BYRON FORBUSH, Ph.D., Litt.D., Media, Pa.

More children get spanked for being tired than for any other one reason. And yet fatigue is not a sin, but a disease. The infection is not of the devil, but of a poison. And the treatment should be chiefly physical rather than moral. Don't listen to his tongue, look at it. Don't argue with him, give him a nap.

The commonest symptoms are irritability, restless roaming about, wanting something and being soon discontented with anything, wearing all one's ugly traits on the outside. Courtesy, which is the virtue most recently acquired by human beings, is the one first lost. Caution, which is hardly a child-like trait, is recklessly discarded, and the young person is likely both to say and to do things for which he will be sorry. Since a tired child cannot be a good child, what he does now may be mostly ignored, in the realization that he is temporarily irresponsible.

The Parent's Fault

The first thing to do is to ask if there has been any contributory negligence on our own part. Have we been allowing the child to indulge in late bedtimes? Have we let him become unduly excited, by too strenuous play or by showing him off? Has his homework heaped up, or has he been worrying over an examination? Or (which one hopes is unlikely) is he doped as well as tired—that is, has he been allowed tea and coffee when excited or exhausted?

There is always the possibility that a child's fatigue is merely the reflection of that of his parent. If we have found three over-fried tomatoes unendurable, the child is sure to notice it. If we have made an onset at him like a dreadnaught, the helpless young one will become tremulous and full of anxiety. If we have found ourselves uttering universal dictums or imposing irrevocable requirements, the chances are that the child has not become suddenly unpardonable, nor we suddenly omnis-

cient, but that we ourselves are tired out. What we need is rest, and the child needs to be let alone.

The Need of Rest

At such a time, and it may be an unusual time, the wisest word to say is: "Come, Betty, let's take a nap." Very likely the child is too restless to go off to bed alone. Possibly she is too excited to give up to sleep. But both mother and child can at least relax. The outer clothes may be removed. Both can lie down on the couch, with a picture book or a story. They can both play they are taking a nap and pause a bit to "let the rest of the world go by."

A nap for mother and child is most desirable after the noonday meal. In well conducted boys' camps a half-hour of relaxation after lunch is prescribed, and it is amusing and pleasant to watch the young athletes reposing thus in the middle of the day. People who develop the nap habit do not die of nervous prostration.

Because fatigue is a physical malady, at such a time avoid all immediate and absolute issues. Shun giving groundless prohibitions. Because mental malady portends, it is dangerous in such a condition to punish, or even to threaten punishment. On the contrary, now is the occasion for soothing music. The day should end with a cadence, and that mother was wise who made a rule to endeavor to require nothing difficult or unusual of her children after four o'clock in the afternoon. A general benefaction of the radio is the broadcasting to millions of restless and unresting children of "bedtime stories."

Specific Results of Fatigue

Fatigue cripples the will for action. Some children, after school, get too tired to undertake anything new, even to take off their clothes. This explains why they play with such animation and are suddenly too exhausted to do any work. Their lack of interest in

home affairs is due, not to lack of loyalty to the home, but an uninterested child is simply a tired child. The remedy is the old-fashioned one: "Work first, then play."

We sometimes wonder why the children do so much better work in school at one time than another. If we watch them closely in their manual activities, we shall observe their inability at times to accomplish any fine work. Thus, piano lessons at the close of a full school day are often wasted. Discounting a fair amount of natural indolence and uninterestness, the wise parent will arrange a regime of rest whenever any fine or noteworthy achievement is expected.

Making the Child a Guest

Most children need and welcome solitude at occasional intervals, even when

they do not care to sleep. They are glad of a break in routine and drudgery. They are willing to have people kept off them. Suppose, without any specific explanation for doing so, you give your cantankerous son the guest room for a little while. Tell the "nervous" daughter that you wish to treat her as "company" for a day or two. You may hint that trying to be considerate company will be her part of the game.

It may be added that on one occasion, when a certain mother became convinced that supposed fatigue was actual laziness, she decided to reverse the relations, and to be the guest herself. The enforced thoughtfulness and attention on the part of the daughter proved most wholesome, and wrought an early recovery of both mother and child.—*The Earnest Worker*.

MAKING GARDEN PAY DIVIDENDS

Mrs. Henry Middleton, Warsaw, Gets Big Returns From One Acre

From a garden one acre in size, Mrs. Henry M. Middleton, of Warsaw, last year sold vegetables to the amount of \$297.71, used in her home an amount valued at \$698.15, gave about \$30 worth to friends, fed to hogs and cows an amount valued at \$101.20, and won prizes with vegetable displays to the amount of \$12.50 at the county fair.

Mrs. Middleton won first prize in the State-wide garden contest conducted by the home demonstration agents and horticultural department of State College last year. Her total cash profits from the garden amounted to \$1,139.56 and her expenses were \$57.88, which left her a neat little profit of \$1,081.68 on the venture.

Nor was this the greatest profit. "For two years now," says Mrs. Middleton, "we have had the doctor in our home but twice for sickness. The children are bringing home better reports from school, and the oldest one has been on the honor roll every month during the past school term. I believe this is largely due to our year-round garden, and the daily supply of vege-

tables to which our family helps itself in generous proportions. We have served a cooked leafy, a root, and a raw salad for 365 days during the past year, Irish and sweet potatoes, beets, radishes and onions we have had each month in the year. Our daily average has been nine and one-half, and all of these were fresh and stored from our own garden—the fruit of our own labor."

Mrs. Middleton states that the garden spot is the most fertile acre on a fertile farm of 72 acres. It is located back of the house, near the kitchen door, and the soil is deep and tile-drained.

In her report to E. R. Morrow, extension horticulturist, Mrs. Middleton gives an interesting recital of how vegetables were planted to succeed each other on the land, and how she struggled with dry weather in getting the young plants started. She used a lot of water.

"For three weeks," she says, "we carried from 50 to 75 buckets of water per day, besides using the hose to

water young plants near our tank. From the last of June until July 24 we had no rain at all. We still had plenty of vegetables to eat and some to sell, but we had trouble in getting young plants to come up. Everything I planted during this drought, I would cover with bags or boards. The bags were kept moist until the seed showed the first signs of coming through; then the bags were gradually lifted above them as a shade from the hot sun. In this way we hardened plants to the sun as we had formerly hardened the early plants to the cold."

Mrs. Middleton believes that her tomato record can hardly be beaten. The family ate its first tomatoes from the garden on June 12. They were served fresh each day until February 4, 1927. In addition, Mrs. Middleton canned 48 quarts and sold \$51.25 worth. The tomatoes were planted for an early and late crop, and each plant was kept tied, pruned and staked. The ripe fruits were gathered each day, when the inferior ones were fed to chickens.

In addition to vegetables, the garden was made to furnish all the sage, thyme and hot pepper used for season-

ing and for the sausage and pudding sold on the curb market. All the popcorn that the children enjoyed during the winter evenings was also raised in this garden. The profits paid for groceries purchased and for the few simple clothes that had to be bought for the children.

"By having this garden," says Mrs. Middleton, "we have learned to live at home on our vegetables and fruits, together with our poultry and eggs, milk and butter, home-raised meat, home-made meal, nuts and honey. We have cut down our living expenses, our tonics, and our doctor's bills. The result has been a happier home and good health. While I have worked to make the vegetables to feed our bodies, to keep them well and strong, there has been left a place in the garden for flowers. Three times, 365 days, a little vase of fresh flowers was placed on the table with the vegetables. Did not Mahomet wisely say, 'He that hath two loaves of bread, let him sell one of them for flowers of the Narcissus; for bread is food for the body, but the Narcissus is food for the soul.'"—*The Sampson Independent*.

A "CURE" FOR SMALLPOX

A friend sends in an item recently published in the *Morganton News-Herald*, purporting to be a cure for smallpox. Our correspondent states that this so-called "cure" was given to the editor of the *Morganton* paper by the wife of a former Harvard graduate. We mention this in order to make it plain that in the warfare against quackery the educated person is often just as dense in his or her ignorance as the Negro voodoo artist in the middle of Africa, when dealing with matters out of their realm, and of which they know nothing about.

This so-called "cure" was given as sulphate of zinc, digitalis, and sugar. The concluding statement in the article is as follows:

"This remedy is said to be perfectly harmless, and Mrs. has known people who tried it with quick results."

The foregoing mixture, recommended to be taken internally and as "perfectly harmless," is a fair sample of

the ignorant statements frequently disseminated about smallpox. Every physician and druggist is familiar with the fact that digitalis is one of the most poisonous and dangerous drugs in the whole pharmacopeia, and yet such dangerous trash frequently finds its way into the news columns of the best newspapers in North Carolina. The whole business is discouraging, to say the least.

Why have smallpox, anyhow? The one disease having a sure preventive for more than one hundred years. Get vaccinated, and let the Sairy Gamps who write the remedies for smallpox to be published in the personal columns of the newspapers take the digitalis.

Most infections are transmitted through contact; contact of hands, contact of skin with objects, contact of objects with the mouth, infection of food through contact are some of the means of transmission.

THE NURSE'S PLACE IN PREVENTIVE MEDICINE *

By SELLERS M. CRISP, Jr., M.D.

Before beginning any formal discourse, I wish to thank you for this opportunity to address you. It is an honor I little expected and much appreciate.

Just ninety-four years ago your profession had its formal beginning. During this span of nigh a century the nature of your work has greatly changed. At first your efforts were chiefly to ameliorate suffering. As an elderly nurse with some asperity once said to me, "We do bedside charting now, but we used to do bedside nursing." You bathed the fevered brow; you smoothed the wrinkled pillow; you brought cheer and encouragement to the discouraged sufferer. Thomas Gray gives us this picture of Death and her Family of sufferings that afflict humanity:

"Lo, in the vale of years beneath
A grisly troupe are seen
The painful family of death,
More hideous than their Queen;
This racks the joints, this fires the veins,
That every laboring sinew strains
Those in the deeper vitals rage."

It was this horrible family you fought as the doctor's ally, and together the nurse and doctor certainly made the world a better place in which to die. But the chief idea in all this work could be easily expressed in the words of the Master: "I was sick, and ye ministered unto me."

Within the past two decades this old idea has ceased to be the predominant thought. A new era has come to medicine, and since nursing and medicine are twin sisters of the same mother, one advances with the other. This change that has come in the modern conception of preventive medicine, in which we strive not only to make the world a better place in which to die, but a better place in which to live. It is about your part in this great new

field of medicine that I wish to talk today.

In running over a list of activities belonging to preventive medicine in which you have an important part, one naturally arranges them in a chronological order; therefore, we find your first great task in prenatal care. Expectant mothers will consult you in many cases long before they will a physician. Even in the most intelligent classes, unless a woman has ex-



A Young Davie County Medico on the Trail of an Easter Rabbit

treme nausea and distress, she not rarely fails to consult a physician until her condition has advanced four or five months. During that time you may have access to her in a non-professional way not possible for any physician, and often you can give her advice that will be life-saving in character. Upon this very subject of child-bearing and maternity one is constantly amazed at the prevailing ignorance. The modern generation is so gay, so flippant, and debonair to such a degree, that one

*Paper read before the District Nurses' Association, Greenville, N. C.

is led to believe them well versed in the ways of life. So much has been said and written in recent years about this subject that it is amazing to find so frequently a young mother or a young father totally ignorant of the deep underlying principles of life, love, and human conduct. I confess with shame that the average physician is too little of a counsellor about matters not strictly medical, and it must devolve upon you then to supplant his weakening efforts in this particular line.

Your next task follows prenatal care, and is, quite naturally, infant welfare. Upon this subject the medical men are more competent than in prenatal care, because mothers for some reason seem more disposed to coöperate with the doctors about a child born than one yet unborn. But there is yet a woeful amount of ignorance in the world. Babies born with sound bodies of parents with sound bodies are much handicapped because of poor care and poor food. You cannot conscientiously say to a bereaved mother grieving for her babe, "The Lord chasteneth whom He loveth," when you know the milk should have been pasteurized or the windows screened for flies. The mother should have been told of these things long before it was too late and you have just as important a place here as the doctor; for you come even more intimately into contact with the family life than he does. The proper preparation of formulæ, proper dressing and exercises, proper hours of play and sleep; all these are very important and come well within your domain.

Following our growing infant along life's way, we come to the next time when you are needed, at the pre-school and early school ages. The number of poorly nourished children exceeds the properly nourished. There are not enough cows in this rural community to provide a daily quart of milk to every child. Children come to school not only undernourished, but with poor teeth, large adenoids and tonsils, ocular defects, deafness, postural defects. You should be always militant in fighting that these things be bettered or prevented. A balanced diet, sleep in well ventilated rooms, proper clothing, proper exercises and habits you can

advise and urge. And as you win the respect of the parents, they will follow your advice, for I again assure you that you come into an even closer contact with the family life than the doctor himself.

Any discussion of your part in such work as the Schick test, and toxin anti-toxin administration, the Dick test and the vaccination against whooping cough, smallpox, and typhoid fever are too well understood for any mention here.

I now pass on to a large, ill-defined group of activities which for a better name I have called the border aspects of hygiene and sanitation, for which you must be apostle and priestess. To do this you cannot be ignorant of them. It is not enough for you to know how to make a sick bed, give baths, take the temperature, pulse and respiration and administer medicine. There are other fields of help waiting for you that are just as important, just as necessary, and just as able to give you that "Well done, thou good and faithful" sensation. A nurse's life should have a little of the militant, she should feel within, I am the captain of my soul, the master of my destiny, but, too, she should have this characteristic tempered by altruistic ideals for self-education. The "build thee more stately mansions, O my soul" idea. William Cullen Bryant once said of Edgar Allan Poe that he did not know much, yet we admit Poe was a genius. You or I have no stamp of genius to cover our ignorance, so you must know your subject the best you can.

Finally, you must remember that a human life is a precious thing, and that you must forever seek to cherish and brighten its flows. I would have you always think of Othello's mournful words as he smothered Desdemona; "But once put out thy light, thou cunningest pattern of excellent nature, and I know not where is that Promethean heat that can thy former light again relume."

This is but a brief outline that I have given you, but it will serve to remind you of your noble share in our high common calling. Your duty shines clearly before you, like the cross before the pilgrim's eyes.

IMPROVE QUALITY AND INCREASE QUANTITY OF MILK

By C. O'H. LAUGHINGHOUSE, M.D.

The question of Nutrition in North Carolina is among the most important of all questions when it comes to the prevention of disease.

Children and grown people who are well-nourished are above all others most likely to resist the implantation of disease.

Whether people young or old suffer infections and contagions depends upon their individual ability to resist them.

Resistance is largely a matter of digesting the proper quality and quantity of food.

Food of the finest quality is being raised in North Carolina but not in sufficient amount. The State needs to give more immediate and emphatic attention to informing its citizenship regarding the necessity of replacing scrub cattle by stock of a better kind so that the quantity and quality of milk will continue to improve. Why feed cows of a lean and scrawny type when better breeds of milk and beef cattle can be raised at no extra expense? Why raise Bill Arp razor back hogs when Poland China, Tamworth, Essex, Berkshires, and other breeds of hogs yield

a finer quality and quantity of meat?

Why suffer from under-nourishment when milk, meat, chickens, vegetables and fruits can be had in profusion with just a little forethought and a little care?

What a joy would come to us if they would put their non-descript trees into fire wood and replace them with fruit trees caring for them, fertilizing them and cultivating them until they come to be things of beauty and interest and revenue.

The raising of stock, poultry, truck and fruit needs to be brought about as a common practice in North Carolina in order to correct under-nourishment which correction will go far toward the prevention of disease.

Fruit growing and gardening is a most attractive way to get the good from God's out-of-doors. It is not only profitable but health-giving. It brings pleasure and conduces to morality. The State would be much better off if it could get the habit of raising fruits, vegetables, cattle, hogs, chickens, ducks, and everything.

CLEANLINESS

Several years ago a friend of ours, who is a business man in a small North Carolina town, visited the exposition in San Francisco. On his return home he stopped over in Raleigh and we asked him what was the most impressive thing that he saw while away. He unhesitatingly replied, "The spotless cleanliness of California from one end to the other." That answer made quite an impression on us. Here was a small town business man who was accustomed to having his customers come into his place of business chewing and spitting where they pleased, and although he was a prosperous business man it was natural to think that such habits made no especial impression on him or he would have been making an

effort to enforce better habits among his associates. This man went back home and we have heard that he made valient efforts in his town to get the people to clean up and keep clean, and especially to put a stop to promiscuous spitting on the sidewalks, in the stores, the railroad station, the post office, and other public places. Just how successful he has been we do not know. Promiscuous spitting evidently spreads disease. It is not improbable that a great deal of the tuberculosis contracted by children and later developed during adolescence is caused from this filthy, unnecessary habit.

We were reminded of the foregoing the other day when an occasion required a visit to a big Raleigh corpora-

tion's headquarters. By the time we entered the building until we left the impression of absolute spotless cleanliness was foremost in our mind. Not a flick of dirt or dust or anything in any office connected with the business. From the exchange telephone girl in the front hall to the janitor everything and everybody almost approached what the doctors call surgical cleanliness. This particular institution is a Raleigh concern, with an immense amount of business throughout this section, and it is all we can do not to give them this free advertisement by calling their name right out in public. However we venture to say that within another ten or twenty years, if conducted on the same principles and in the same manner by the present management, that that particular business will be the headliner for this section. We asked one of the officials what would happen if one of the girl employees should decide to chew some gum and expectorate around somewhere, as is so frequently done on the streets and in many other

places. The official almost shuddered and said that she could not be fired fast enough. It may be that this institution, being particularly concerned with good health and long life, is applying the scientific principles in the full expectation of producing results.

Think what an impression would be made upon strangers if all of the places of business in the city of Raleigh or hereabouts, on streets, and public places, and all of it could make the same impression on visitors from a distance as the cleanliness of California did on the small town business man from North Carolina, or as this big business institution in Raleigh made upon us recently! The real estate concerns around here could hardly open up new developments fast enough to accommodate the people who would want to locate here to live and work and make money and spend it.

Conclusion: Let us as good citizens end the filthy, useless habit of promiscuous expectoration.

WHAT AMERICA OWES TO MEDICAL SCIENCE

By CALVIN COOLIDGE, President of the United States

(An address before the annual session of the American Medical Association in Washington, May 17, 1927.)

America has so many elements of greatness that it is difficult to decide which is the most important. It is probable that a careful consideration would reveal that the progress of civilization is so much a matter of interdependence that we could not dispense with any of them without great sacrifice.

But those who have witnessed the general paralysis which prevails when even a moderate epidemic breaks out cannot help but realize that one of the most important factors of our every day existence is the public health, which has come to be dependent upon sanitation and the medical profession. We are constantly in receipt of the beneficial activities of these efforts in the disposition of waste, the water we drink, the food we eat, and even in the air we breathe.

This great work is carried on partly through private initiative, partly through government effort, partly by a combination of these two working in harmony with the science of chemistry, of engineering and of applied medicine. In its main aspects it is preventive, but in a very large field it is remedial. Without this service our large centers of population would be overwhelmed and dissipated almost in a day and the modern organization of society would be altogether destroyed. The debt which we owe to the science of medicine is simply beyond computation of comprehension.

These benefits have almost all come to the world within a few generations. Pure science, as we understand the term, has a very recent origin. In fact, we need go back but a short distance to find the first modern comprehension

of the difference between sound thought and visionary speculation. Since that day we have come to what is known as the scientific age.

Almost all over the world men are making observations, collecting accurate information, comparing ascertained facts and working toward established conclusions. Although great progress has been made and certain fundamental rules have become well established, we cannot yet estimate the development of scientific research as much more than begun. But great effort is being put out all around us and a constant advancement of knowledge is in progress. This has been especially true in the science of medicine. Many of the diseases which laid a heavy toll on life have been entirely eradicated and many others have been greatly circumscribed. The average length of life has been much increased. But there is still an enormous economic loss in sickness and the list of maladies for which no remedy is known is still large. How far the mind has an effect on the body is not yet accurately known. What mental reactions may be set up to preserve health or combat disease cannot yet be stated.

The Necessity of an Open Mind

If there is any one thing which the progress of science has taught us, it is the necessity of an open mind. Without this attitude very little advance could be made. Truth must always be able to demonstrate itself. But when it has been demonstrated, in whatsoever direction it may lead, it ought to be followed. The remarkable ability of America to adopt this policy has been one of the leading factors in its rise to power. When a principle has been demonstrated, the American people have not hesitated to adopt it and put it into practice. Being free from the unwarranted impediments of custom and caste, we have been able to accept whole-heartedly the results of research and investigation and the benefits of discovery and invention.

This policy has been the practical working out of the applied theory of efficiency in life. We have opened our mines and assembled coal and iron with which we have wrought wonderful

machinery, we have harnessed our water power, we have directed invention to agriculture, the result of which has been to put more power at the disposal of the individual, eliminating waste and increasing production. It has all been a coördination of effort which has raised the whole standard of life.

In the development of this general policy the science of medicine has had its part to play. No tendencies in recent history have been more outstanding than those toward conservation and co-operation, both in public and in private activities. For years the value of conservation of our material resources, forests, mineral deposits, water power, animal life, has been generally recognized. Movements have been started to cut down waste and unnecessary destruction in business and industrial operations. We are practicing economy in our governmental affairs. But the conservation of human health and life is one of the greatest achievements in the advance of civilization, both socially and economically.

What an incalculable loss to the world may have been the premature blotting out of a single brilliant creative mind which might have been saved through modern healing or preventive measures. Efficiency experts translate into dollars and cents what disease and the resulting loss of manpower mean. Directly, disease costs heavily. Indirectly, its results are even more costly.

In the days before medical men robbed them of their terrors, a single case of yellow fever or cholera reported in New York Harbor caused such panic as seriously to interfere with business. Now such sporadic cases would scarcely cause public comment. Industry now figures what disease and temporary disability of employees, from the highest to the lowest, means on the yearly balance sheet. It is not uncommon for a corporation to take out an insurance policy for its own benefit on the life of an executive. Thus it attempts to neutralize the monetary loss it presumably might suffer through being deprived of his services.

Factory buildings now are equipped with modern sanitary and hygienic de-

vices. Large industrial establishments employ not only doctors but nurses to care for their employees. Industry has found all of this not only a social but a financial benefit. The cost of such improvements has been returned many times in the amount of productive labor saved. Life insurance companies have health clinics and distribute hygienic literature. Several have sanatoriums for the treatment of their policyholders.

Medical Heroism

There is no finer page in the history of civilization than that which records the advance in medical science. The heroism of those who have worked with deadly germs and permitted themselves to be inoculated with disease, to the end that countless thousands might be saved, was less spectacular but no less far-reaching than that on the battlefield or of an isolated rescue from a burning building or a sinking ship.

In the early part of the nineteenth century there were only three medical schools in the United States and two general hospitals. Since then progress has been marked. Writing in 1920, William Osler said the average working life of English-speaking men had been doubled within three centuries. Most of that gain has been made in the past half century.

The development of preventive medicine has been one of the outstanding features of that period. Whereas in the old days the doctor healed, if he could, those who had become afflicted, the greatest stress today is laid upon keeping the body sound and efficient. Proper methods of living are taught and suitable diets are prescribed. Hygienic conditions for the home, the workshop and the factory have been adopted. Periodic physical examinations are urged in order that disease may be turned back before it has become seriously developed.

Health Preservation Public Function

In all this work our Government—national, state, and local—has recognized that the preservation of health and the conservation of life are in part public functions. Health boards have been established, hospitals built and

maintained, public nurses employed, and hygiene taught in the schools. The Public Health Service of the Federal Government has taken a leading part in combating diseases and in sanitary education. No more striking achievement was ever accomplished than by Dr. Gorgas of the United States Army in cleaning up the Panama Canal zone. Under French control, the death rate in that area was 240 per thousand. In 1913 it had dropped to 8.35 per thousand. Without this work the construction and operation of the canal would have been impossible.

Universities and colleges, and even secondary schools, have their resident doctors and infirmaries. Not a few individuals who can afford such health assurance retain physicians to look after them the year around. Only recently the movement for prevention, or relief in the early stages, has been extended to mental diseases. Cities are establishing mental clinics and many educational institutions have departments for studying and alleviating mental distress, which so frequently leads to serious consequences for the student.

Advocates of Prevention

Coöperation and tolerance, which have been developed so widely in industry and social relations, are now found in a marked degree in the medical profession. The work being done by the American Medical Association is a striking illustration of this. In years gone by physicians were apt to be suspicious and intolerant of other schools and of other methods of treatment. There has been a great change. The modern broad-minded physician is willing to use or to recommend whatever methods seem best suited to the case in hand. Furthermore, he is the strongest advocate of prevention. He it is who is taking the lead in the development of everything which promises to promote health and to reduce sickness to the minimum, even though its tendencies are to diminish the practice upon which he relies for his income.

All of these accomplishments are distinctly in the line of conservation through social service. The society of this country has become so well organ-

ized, its charities have become so broad and inclusive, that the great body of our population is able to secure adequate medical attention. This is true of all our great centers of population, and it is only in remote quarters that such service cannot be provided.

Our larger cities support free dispensaries, our hospitals have provision for free service, and of all the professions, with the possible exception of the ministry, our physicians give most unsparingly of their time and their skill for the alleviation of human suffering. Our governmental agencies, our organized charities, and our private benefactors are all giving generous support to this most important purpose.

This is an enormous contribution that has been made to human welfare. It is one of the undeniable evidences of the soundness and success of American institutions. The fact that our attainments and our blessings have become common is no reason why they should be ignored. Constructive criticism is always proper and ought to be helpful. Mere fault-finding has no value, except to reveal the poverty of the intellect which constantly engages in it.

Our country, our Government, our state of society, are a long way from being perfect, but the fact that our structure is not complete is no reason for refusing to assess at their proper value the usefulness and the beauty of those parts which are nearing completion, or withholding our approval from the general plan of construction and neglecting to join in the common effort to carry on the work.

Search for Truth Must Continue

The human race is by no means young. It has reached a state of maturity. It is the inheritor of a very wide experience. It has located a great many fixed stars in the firmament of truth. No doubt a multitude of others await the revelation of a more extended research. But because we realize that we have not yet located them all is no reason for doubting the existence of those already observed or disregarding the records which reveal their position. To engage in such a course would lead to nothing but dis-

aster. One of the difficulties in the world is not that we are lacking in sufficient knowledge, but that we are unwilling to live in accordance with the knowledge which we have. Approval of the Ten Commandments is almost universal. The principles they declare are sanctioned by the common consent of man-kind. We do not lack in knowledge of them. We lack in ability to live by them.

Somewhere in human nature there is still a structural weakness. We do not do as well as we know. We make many constitutions, we enact many laws, laying out a course of action and providing a method of relationship one with another, which are theoretically above criticism, but they do not come into full observance and effect. Society is still afflicted with crime, and among the nations there are still wars and rumors of wars. In spite of all our progress and all our success, no one doubts that much yet remains to be done.

The Doctor's Part in World Regeneration

What part the physician will play in the further advancement of the well-being of the world is an interesting speculation. It is a well known proverb that "Cleanliness is next to godliness." No one can doubt that if humanity could be brought to a state of physical well-being, many of our social problems would disappear. If we could effectively rid our systems of poison, not only would our bodily vigor be strengthened, but our vision would be clearer, our judgment more accurate, and our moral power increased.

It is to the medical profession in its broadest sense, untrammelled by the contentions of different schools, that the world may look for large contributions toward its regeneration, physically, mentally, and spiritually, when not force but reason will hold universal sway. As human beings gain in individual perfection, so the world will gain in social perfection, and we may hope to come into an era of right-living and right-thinking, of good will and peace, in accordance with the teachings of the Great Physician.

LITTLE TALKS ABOUT BIG DISEASES

SOME FACTS EVERYONE SHOULD KNOW

WE USED to believe that SCARLET FEVER was transferred from one person to another

by means of the scales of skin which come from the patient late in the disease. We know now that this is not true, and that *the infection is spread by the secretions of the nose and throat*, very frequently in the early stages of the sickness. In this respect scarlet fever is similar to diphtheria, whooping cough and measles.

SCARLET FEVER is still very serious as a cause of illness and death but one which has lost some of its terrors in the last few years. We now have the DICK TEST, an entirely harmless procedure, which is an accurate guide as to whether persons are apt to catch the disease if exposed to a case. Of greater importance, however, are the recent developments of methods for prevention and treatment. SCARLET FEVER TOXIN is being used to an increasing extent in producing immunity. This PROTECTION probably lasts only a year or so and, at present, is generally recommended

for use in children who have been or are apt to be exposed to the disease during epidemics or in institutions where scarlet fever is prevalent.

Good results are being reported with SCARLET FEVER ANTI-TOXIN. We feel entirely justified in stating that this is an efficient TREATMENT for a disease which heretofore had no specific remedy. If the case is at all serious, it is the method of treatment that certainly should be considered by parents and the family physician.

Scarlet Fever is on the way to oblivion along with Smallpox, Typhoid Fever and Diphtheria. Science has provided definite, harmless methods of prevention which are available to everybody. Not to take advantage of these opportunities can be considered as nothing more or less than gross personal negligence. The family in which these diseases are allowed to enter is a danger to the community. Protect your family and your neighborhood by the safe, inexpensive methods offered by your physician and your health department.

DIPHTHERIA IS NOT NECESSARY



Don't forget to protect your
children with Toxin-Antitoxin

STARVING AMERICA

NO! We are not proposing to organize a campaign to raise money for the feeding of children in the Near East or in the very Far West. Neither are we going to point out the great desirability of every person having his vitamins, and his iodine, and his iron to-day. We are not going to rail against the hasty breakfast, nor the improper preparation of foods, nor the unbalanced ration, nor the great prevalence of malnourished school children.

No people in the entire world have ever been so well fed, qualitatively and quantitatively, as are we to-day.

But man, and in particular a child, does not live by bread alone. There are other things than food that are essential to the proper development of a child.

OLD Mother Nature is tremendously interested in the propagation of the various kinds of plants and animals that inhabit the earth. She is also interested in the continuation of the human species, provided that species is fit to continue. Culture, civilization, science, religion, the school, the home, society, the industries—everything—depend upon the perpetuation of the race. *Problems then involving the procreation of the species must be adjudged as being of extraordinary importance.*



Nature is no fool. Indeed not! She has been on the job for a long time, and we must admit that she has done well in spite of the fact that certain prudish sisters think that some details of the way of life might be very materially improved. Blind teachers and parents may insist that the youth and maiden "had better have their minds on their books," but the wise old Mistress of the Ages turns the thoughts of adolescence to the eternal verities of Life, and in so doing she is right and prudent.

WE older ones, however, have scarcely understood; our children have asked us for facts and we have given them fiction; they have asked for "do" and we have given them "don't"; they have asked their noble source, and we have told them of doctor's satchels, Sears-Roebuck orders, or have spun the "Made in Germany" story of the stork. We have rebuked them for their innocent questions until they no longer ask them, but blunder through the formative years of life like a thousand ancestors who have gone the same way making countless costly errors and occasionally finding the light.

How discouraged Nature must get in her search for teachers in her school! She has begged and implored parents to take the position, but mostly they have been deaf—and dumb. She has suggested to the school teachers and the preachers that she would like their help, but they have held up righteous hands and supposedly empty minds claiming that they knew nothing at all of such base things; they have been too busy teaching humdrum to find time to set the boys and girls right on vital matters. Yet the children must be taught somehow, since it is impossible that they can grow to be men and women and not know how the race is reproduced. So Nature has been compelled to use the eagerly proffered services of older boys and girls (themselves needing wholesome instruction), of perverts, and of libertines. For a school house she is compelled to use the alley, the hay mow, the deserted house, the vacant lot or garage; for text books she has obscene magazines, vulgar stories, quack medical literature, and lewd pictures. A FINE SCHOOL INDEED!



And yet these same children going to Nature's school in the alley have been asking that they be taught these vital matters at home at their parent's knee. How dare we risk the ruin of their health and perhaps their precious lives by leaving them in ignorance when they are asking us for the truth?

BOYS, all boys except the very depraved ones, if there be such, will thrill to the theme of glorious manhood—hard fighting, clean-living manhood. They are asking us for the food that will make men of boys, and we are giving them trash and lies. *Their better-selves are being starved.*

NUTRITION NEWS

By EDITH M. BARBER

Food and Nutrition Consultant



IN preparing food for the family it should be remembered that green celery, cabbage and lettuce contain more vitamins than the bleached vegetables. For this reason the outside leaves which are in good condition should not be thrown away. Lettuce may be shredded with the scissors and used for salad or for sandwiches, or it may be cooked and served as a green. Green celery may be cut in cubes, cooked and served with a white sauce (the hotels call it "Braised Celery" and charge fifty cents a portion), or it may be cooked in the oven with meat stock. If cabbage is cut very fine with the scissors, the children may have it for a salad with a little lemon juice for a dressing. If cooked without a cover and only about ten minutes, cabbage will not develop the acid which makes it dark in color, strong in odor, and difficult of digestion.

A GOOD HOT LUNCH

For the school children and the rest of the family

Milk Vegetable Soup

Toasted Crackers

Brown Bread Lettuce Sandwiches

Baked Apple Stuffed with Dates

RECIPE FOR MILK VEGETABLE SOUP

2 tablespoons butter 1/2 cup diced potatoes
1/2 cup diced celery—3 cups milk—Boiling water to cover
1 tablespoon minced onion—salt—1/2 cup shredded carrots
2 tablespoons minced celery leaves

Melt the butter and cook the onion in it about 1/2 minute, add the vegetables, boiling water and salt and cook until vegetables are tender. Add the milk and more seasoning, if necessary. Add the minced celery leaves. Heat and serve at once.





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ALL SET TO GO



No sports are more healthful than swimming and rowing. They bring into active use nearly all the muscles and compel deep breathing, thereby providing an abundant supply of oxygen for which so many people are starved. Particularly are water sports attractive in the midst of hot midsummer days. The scene shown in the picture above is a daily occurrence in one of the many popular North Carolina summer camps.

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
Colds	Influenza	Tuberculosis Placards
Clean-up Placards	Malaria	Typhoid Fever
Chickenpox	Measles	Typhoid Placards
Diphtheria	Pellagra	Veneral Diseases
Don't Spit Placards	Public Health Laws	Water Supplies
Eyes	Prenatal Care	Whooping Cough
Flies		

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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PARKS AND PLAYGROUNDS

Two items reported in the daily press recently are responsible for this article. It ought not to be necessary to remind people of today of the great necessity of providing parks and playgrounds for the future. The two items referred to are:

1st. The story carried in some of the New York papers recently concerning the expansion and suburban development in the city of Paris. These reports conveyed the information to the effect that the city of Paris, one of the oldest cities in Europe, is tearing down and moving the ancient fortifications surrounding the city, thereby making room for a wonderful suburban development for residential purposes. Paris, unlike some of the older cities in the world, instead of stagnating and declining in population and wealth, is growing and advancing all the time. The remarkable feature of the report concerning the Paris development is that one-half of the area, said to be among the most valuable real estate development in the world, is to be set aside for the use of public parks forever. This provision is incorporated in the statute laws and can never be repealed. Had it not been for the mediaeval system of fortification making Paris practically a walled city for so many centuries, the area would not have been available except through the condemnation and destruction of residential and business property. France is a country of crowded population. The soil of the farms is intensely cultivated. Its woodlands have been conserved at a minimum through restrictions, and

naturally property values in the suburbs around a city like Paris are worth many times more in money value than property values can become for a very long time in the cities of North Carolina.

2nd. The other item which attracted our attention was the fact that the city of Greensboro, in making provision for a new senior high school of surpassing excellence, was seeking a location of one hundred and thirty acres of land for this purpose. It seems that thirty acres had been offered to the city school board, provided that they buy an additional thirty acres, making a total of sixty, of some of the most valuable property around Greensboro. But that board considered sixty acres too small a plat for the fulfillment of the vision they have for the development of the city school system of Greensboro and therefore they are seriously considering, according to this newspaper notice, the purchase of one hundred and thirty acres of valuable land for this purpose. This is the most hopeful sign of vision and progress recorded in North Carolina in a generation, to our way of thinking.

Some three or four years ago it required a mighty effort on the part of the school authorities in Raleigh to get up courage enough to purchase a ten-acre site for the new contemplated senior high school in Raleigh. Many of us argued at that time that a hundred acres of the same land would be none too much, regardless of price paid for the same. All over North Carolina today there are springing up innumerable handsome



PHOTOGRAPH SHOWS GREENFIELD LAKE, A FINE RECREATIONAL CENTER OWNED BY THE CITY OF WILMINGTON. THOUSANDS OF WILMINGTON CITIZENS FIND REST AND RELAXATION HERE THE YEAR ROUND.

consolidated school buildings, for the most part of brick veneer construction, housing something like four or five hundred pupils. For the most part these new schools are located on plats of about five acres out in the country districts where land for the most part is cheap and available without inconveniencing anybody. These plats, none of them, should be less than fifty to one hundred acres, in order to provide for expansion of buildings and playgrounds in the distant future. When the State fills up with population and all its land is cultivated, when factories and stores and residences and highly-cultivated farms are spread all over the State, it will be too late to acquire easily such property. There is no one thing more necessary to preserve the health and happiness of a people than to have available parks and playgrounds for the recreation of both adult and child.

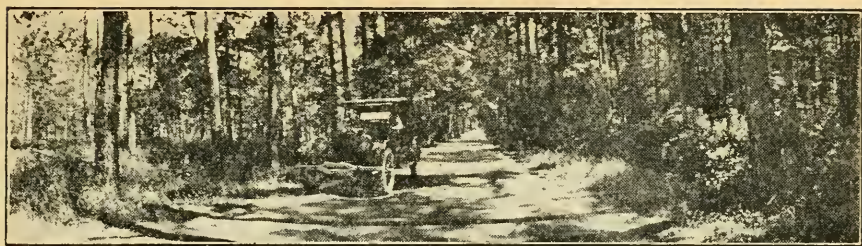
Right now the city of Raleigh, to mention only one town, has the finest opportunity ever afforded any town or city in the State of North Carolina to acquire for park purposes a tract of land that in beauty of location and availability to the people not only of the city but of the whole State of North Carolina could not be surpassed anywhere. So far as we know there has been no move made and no thought contemplated of acquiring this tract of land.

If it is proper to bond our children, our grandchildren, and our great-

grandchildren for two or three generations in order to pay for such things as roads, courthouses, and schools, all of which we ourselves are receiving as much benefit from as will the descendants who will have to pay for all these things for the most part, it is a thousand times more desirable for us to establish such things as parks and playgrounds through the issuance of bonds, because these things will be permanent. Fire cannot destroy, floods cannot wash away, nor can any other destruction prevail against such enterprises as parks and playgrounds. On the other hand, as population increases, as our State grows in wealth and importance, just so much will these parks and playgrounds increase in value and importance from every standpoint imaginable.

We hope by the time these lines are published that Greensboro will have secured its one hundred and thirty acres, and that many other cities and towns of the State will be following suit, and also that somebody of vision and courage in the city of Raleigh and elsewhere will be making a move toward the acquisition of the aforementioned property for a permanent park.

As a forceful example of what some of our cities are doing along this line we are publishing elsewhere in this issue a fine photograph of Greenfield Lake, Wilmington's municipal recreational center. This fine property was purchased about two



AN OUTDOOR SCENE OF GREAT NATURAL BEAUTY BETWEEN WILMINGTON AND WRIGHTSVILLE BEACH. THIS AREA, ESPECIALLY THE PORTION EMBRACING THE SAND RIDGES COVERED IN LONG LEAF PINES, SHOULD BE SECURED FOR A PERMANENT PARK.

years ago by the city of Wilmington. The lake itself, a beautiful natural body of water, is approximately one and one-half by one and one-quarter miles in area. Wilmington also has what every town of any considerable population should have and that is a Municipal Golf Course. This course is situated near, or rather in the edge of, a beautiful sand area covered in young long leaf pines. We are also publishing a photograph of the pines bisected by a paved highway between Wilmington and Wrightsville Beach. The property containing these beautiful pines should be acquired by Wilmington and New Hanover county if possible for a park and playground forever. If Wilmington is unable to acquire this property, the State of

North Carolina could well afford to do so. And furthermore, it should go ahead and do it. With four great paved State highways already completed and converging there, and with the new canal to be constructed by the Federal Government passing nearby, this park could and would be enjoyed by comparatively all the people of North Carolina and eventually by tourists from all parts of the world.

The sorriest slogan ever penned by the hand of man is, "For Ourselves Alone." The prevailing spirit of a civilization like North Carolina would like to claim should be—"For the thousands of generations it is hoped will live here after we are gone."

MUSSOLINI AND ITALY'S PUBLIC HEALTH

Says That Pellagra Has Been Eliminated from Italy.

In its issue of May 28, the New York Times published a full and complete stenographic report of the historic speech made on May 26 to the Italian Chamber of Deputies by the Italian Dictator, Mussolini. Although the speech was a long one of some 12,000 words it was a speech of very great interest to all the world as well as to Italy. We will let the politicians, statesmen, sociologists and so on discuss the features of his address in which he sets his own and

the face of the 40,000,000 Italians against the modern democracies of the world. Our interest is in the pertinent attention given to the cause of public health. He divides his speech into three parts. The first and of most important attention is entitled by him "The Health of the Nation." He comments that there are some people in Italy who have held that the "Manchestrian theory" of let well enough alone should apply. He said that "this is a suicidal

theory. It is evident that in a well-ordered State the care of the physical health of people must occupy first place." One of the remarkable statements in the Dictator's program—his platform, we might call it—is that he is a "Convinced Ruralist." He says that "industrial urbanism leads to sterility of population, and, second, that small rural property leads to the same result." In short, his program for a strong rural population composed of people living on moderate-sized farms would stand between what he calls "infinite moral cowardice of the so-called upper classes of society" and the "industrial urbanism" on the other hand.

He compares the birth rate of Italy, which has 27 per 1,000 of population, with that of the other European countries. He points out that Sweden has the lowest birth rate, 17 per 1,000; Norway, only 19; and Denmark, 21. He also makes the statement that Germany is in full decadence in this respect. He claims that the birth rate in Germany has fallen from 35 per 1,000 to 20. He says that "the birth rate of France has already stopped for the last fifteen years at about 18 per 1,000." But he also calls attention to the fact that in certain sections of France the birth rate is rising. He places England even lower than Sweden, claiming that England's birth rate in 1926 was the lowest in Europe, being only 16.7 per 1,000 population. He says that he has closed twenty-five thousand saloons in Italy during the past few years and claims that the deaths from alcoholism have decreased accordingly. He laments the fact that the mortality due to insanity is on the increase, as are the number of suicides. He places especial emphasis on the fine work that has been done throughout Italy under the National Foundation for the Protection of Maternity and Infancy. He reviews the wonderful progress that has been done under his direction in favor of

a liberalized medical profession, school hygiene, and nation-wide sanitary improvements, as well as in the fine work of safeguarding the food supplies of Italy. Great progress has been made in the water and sewage problems commensurate to any other country. He mentions the fact that the social diseases have increased and explains that more strict measures are necessary for the control of these maladies. He is unable to explain that in certain sections of Italy the tuberculosis death rate has increased. The same may be said concerning cancer. The age-old problem of malaria for the Roman Empire has been handled in a satisfactory manner, he says.

The main purpose we have in calling attention to advancement of public health work stressed in Mussolini's address is on account of the fact that pellagra has been almost wiped out. In the language of Mussolini, "the social malady which has most oppressed the Italian nation for at least forty years past has now entirely disappeared. I refer to pellagra." In 1925 there were only 108 deaths in the whole of Italy from this disease. Kindly compare that to the deaths in North Carolina for the year 1926. In 1926 we had 458 deaths in a population of less than 3,000,000. The Italian deaths of 108 in a population of 40,000,000 bear out Mussolini's statement that the disease has practically disappeared. He says it can be said that the Italian nation has definitely won this battle. We certainly hope that before many more years it can be said that the State of North Carolina has also won this battle. We feel that we are betraying no confidence when we state that a distinguished North Carolina physician is now engaged in an exhaustive research concerning the present status of what might be called recrudescence of pellagra in North Carolina. We hope that he will be

able to present definitely the plan of prevention and treatment followed so successfully in Italy in eradicating this disease. Historically speaking, the disease has been more destructive in Italy than probably in any other

country and, as Mussolini stated, was certainly for forty years or more a serious malady which taxed the resources of Italy's medical and public health professions before they were able to eliminate the disease.

DIPHTHERIA PREVENTION

Some Important Questions on Diphtheria Control Work

Answered by Dr. W. H. Park

As this article is being written (about the middle of June) thirty or forty county physicians, county health officers, and city health officers in as many localities in North Carolina are carrying on strenuous enterprises aimed chiefly at immunizing the younger children of the State against diphtheria. Several thousand children under ten years of age are being given what we may practically call the diphtheria vaccine to protect them against future attacks of the disease. The State Board of Health inaugurated a period of intensive activity along this line four years ago. In 1922 there were 510 deaths reported from diphtheria in the State. In 1926, four years later, there were 255 deaths. Thus it will be seen that in four years time the number of deaths occurring from diphtheria were reduced exactly one-half, although the population of the State at large has been increasing all the time. However, with the perfection of the preventive treatment for diphtheria, there is no reason now why there should be any deaths in North Carolina from this disease.

On account of the intensive interest and the importance to the people as well as health officers and physicians in the State, and because of the fact that there are a number of questions which have arisen following the rapid progress in this control work, we requested of Dr. W. H. Park, the Director of Laboratories of the New York

City Board of Health, his opinion on many of the points at issue. Dr. Park is the man who perfected in this country several years ago the toxin-antitoxin treatment as a preventive of diphtheria. To his courage and persistency the public is chiefly indebted for the placing of this work on a solid, scientific foundation. We are grateful to Dr. Park for permission to quote him at length in this discussion.

In the first place, the most important consideration in the beginning of the immunization work against diphtheria was to definitely ascertain that the treatment is safe; and the second thing to undertake to find out is how long it protects, and in how great a percentage of children receiving the treatment protection is complete. A series of several thousand children taking the treatment, now nearly ten years ago, have been carefully followed and immunity tests applied at periodic intervals, and now after ten years the immunity in all of them is just as active as it was six months after the treatment was completed. These facts were reported by Dr. Park in a paper published last fall. Thus the question of length of time protection lasts has been settled very favorably. Many authorities believe that the treatment protects for life. This of course cannot be ascertained yet.

The special form of preventive treatment advocated by Dr. Park con-

sistently through all these years is the administration of a preparation known as "toxin-antitoxin." Toxin-antitoxin derives its immunizing potency from diluted, altered diphtheria toxin. It is no use to go into a detailed discussion of this phase of the question. Suffice it to say that it is a laboratory product that has been perfected from the standpoint of potency and safety through many years' work and experiment. The toxin-antitoxin has a very small quantity of what is called "horse serum globulin," which causes what is called a "moderate serum sensitization" in an occasional person. Very few people are susceptible to this, but now and then one reacts and is made sick. When any doctor or health officer knows of such a person he does not give the ordinary toxin-antitoxin. But the commercial laboratories have a special product in which goat antitoxin is used in place of the horse serum in the preparation of the preventive toxin-antitoxin.

Following are some of the questions that we wrote and asked Dr. Park:

First: Suppose a child has had diphtheria one year ago and the attending physician had given the child curative antitoxin. Knowing that a dose of curative antitoxin does not confer immunity except for a few days, and knowing also that an attack of diphtheria fails to confer immunity in every person against subsequent attacks, the question naturally occurs in connection with the question of serum sensitization, would it be safe and desirable to give such a child toxin-antitoxin in order to provide immunity against further attack?

Dr. Park answered that such a child should be given the toxin-antitoxin. To use his own language, "So far as giving toxin-antitoxin after a dose of antitoxin, there is no difference of opinion that this is absolutely harmless."

Second: In a child that had toxin-antitoxin administered in three doses at separate intervals, say one year or more ago, and who happens to be one of the small percentage of children failing to receive immunity from three doses of toxin-antitoxin and develops diphtheria, the question arises, would it be safe to give it antitoxin?

Dr. Park answered this question by saying that "There is no objection to giving antitoxin to a child who has had toxin-antitoxin or any other serum."

The foregoing reply is a definite and clear-cut statement which should set at rest the fears of any doctor or health officer in the State concerning the free use of antitoxin when an attack occurs regardless of what the child has previously had, or concerning the use of toxin-antitoxin as an immunizing agent regardless of previous administration of serum of any kind. This is a statement that will pay every doctor and health officer to remember.

Schick Test

There is a test known as the Schick reaction which is very simple in the hands of experienced physicians who become expert in its use for determining whether or not any person is immune to a future attack of diphtheria. For those who would like to decide when to use the Schick test, when it is not necessary to use, and what may be expected from it, the following illuminating statement of Dr. Park will be welcomed by everybody concerned:

"The Schick test is used when the giving of the test gives more information than trouble. In cities the Schick test is usually done in school children before giving the toxin-antitoxin. In country districts it is usually not given. The reasons for this difference is due to the fact that in the city, children by the time they reach school age are generally immune, while in the country the great majority are still not immune. In

both cities and country the Schick test is not usually done in pre-school children but in individual families a physician who is used to doing the Schick test frequently does it in children after three years of age. If a child has had three doses of toxin-antitoxin, it is very advisable to do a Schick test any time after a lapse of six months in order to be sure that the child is immune. As fully 85 per cent. of the children will be found to be immune, it is a great saving of trouble and of course unless a Schick test is done, we might continue giving injections of toxin-antitoxin indefinitely if we wish to be absolutely

certain that the child was immune.

"It has been found by experiment that one dose of toxin-antitoxin gives about 50 per cent. of successful results; two doses about 75 per cent. and three doses 85 or 90 per cent. A fourth dose would add another 10 per cent. and a fifth dose would give 99 or 100 per cent. It has generally been found advisable to give three doses because of the annoyance of giving as many as four or five and then if possible of doing a Schick test sometime after four or five months and giving the 10 per cent. of non-immunes a second series of injections."

TYPHOID EPIDEMIC IN MONTREAL, CANADA

Montreal, Canada, has experienced this past spring during March and April one of the worst typhoid epidemics that has been witnessed in North America for several years. It serves as a painful reminder to health officers and city officials everywhere as well as to the people generally that typhoid fever still remains one of the most dangerous and treacherous diseases which afflict mankind. Our record of a continual lowering typhoid rate in North Carolina since 1915 merely expresses the ratio of vigilance and hard work that has been continually exerted toward the control and prevention of that disease. During March and April and May it is reported that four thousand people contracted typhoid fever in the city of Montreal. As these lines are written the final reports have not been received, but the disease is reported as being under control. The death list has not been published, but it is assumed that it will be in the neighborhood of three hundred and fifty deaths. The remarkably distressing feature of the disease is that it should occur at a time of year and in a climate which the average person would ordinarily think impossible to witness such a siege. Typhoid

fever is a disease that occurs anywhere in the world, any month in the year. It attacks any race or a person of any age, and no human being is innately immune any time, anywhere. It still holds possibilities for destruction second to no disease in the world.

Another disturbing element in connection with the Montreal epidemic is that it is attributed by the Canadian health authorities to a typhoid carrier in the person of a foreman of a large milk pasteurizing plant in Montreal. We have emphasized in these pages certainly for at least twelve or thirteen years the fact that while milk is one of the most desirable of foods, it is one of the most dangerous. The reason for this is that milk forms the ideal food for the propagation and growth of bacteria, especially of the type of the typhoid bacillus. Physicians, of course, understand that a patient suffering from typhoid fever contracted by drinking contaminated milk; that is, milk infected with typhoid bacilli and therefore containing the infective agent of typhoid, generally develops a much more dangerous type of typhoid fever than infection obtained from any other source. The reason has been

attributed by scientists familiar with the procedure to the enormous dose of poison, that is, germs taken in milk. The reason, as just stated, is because the germs propagate so rapidly in milk that the dose immediately becomes enormously large. Water-borne epidemics, except in unusual cases, are not apt to be so fatal to as large a number of patients contracting the disease as the milk-borne epidemic for the foregoing reasons.

There is considerable traffic between Canada and the United States, especially during the summer months, and with an epidemic like that at Montreal, with so many hundreds of people involved, it is only natural to expect that there will be a great number of carriers which would be impossible to detect until too late, and therefore it would be wise for all summer resort people to be on the alert and to guard with especial effort their milk supplies. One important feature would be to require the careful physical examination, by a competent physician, of every prospective employee contemplated in any milk-producing plant, no matter how small, or in any restaurant or hotel serving food. In these days of quick transportation it would only be a matter of a few hours before a carrier could come out of some epidemic like that of Montreal, traveling the distance to some of our resorts and applying for work as a food purveyor or operative in a milk plant. Naturally these carriers would be for the most part innocent, and would not know themselves that they were dangerous, which lays an especial added responsibility at the door of health authorities responsible for the protection of the people against such circumstances as that at Montreal.

We suppose that most of the health officers of North Carolina, that is, the whole-time organized departments in cities and counties, have by this time completed their usual summer campaigns for the administration of

typhoid vaccine; but we would like to urge upon them and upon all individuals contemplating a visit away from home the necessity for receiving the full three doses of typhoid fever vaccine before taking such trips. Typhoid has been known in the text books all the time as "Autumnal Fever," which is one of the names. Another name has been "Vacation Fever." The reason for this is that most of the cases occur during the autumn months, and many of them in the cities, especially in connection with widespread epidemics like Montreal, are contracted by persons away from home on vacation. In times past hospitals in places like Washington, Baltimore, and New York always made special arrangements to care for the returning typhoid vacationists.

In conclusion, for the individual we would like to urge: First, if away from home for even one meal, especially if that meal is to be eaten in a place where there are no organized efforts at the control and prevention of typhoid, that typhoid vaccination should be procured at least once every three to five years. Your family physician will be prepared to give this at any time; if not, your health officer will. Second, refrain from drinking water, no matter how pretty and sparkling it looks, from springs or open wells, or rivers and streams of any type. Third, be extremely careful in drinking milk to ascertain that it is produced from cow to consumer under the strictest sanitary precautions.

Little Gertrude bought a cake of toilet soap and told the druggist to charge it.

"Who is it for?" inquired the druggist.

"For all of us," replied Gertrude.—*From Children, the Magazine for Parents.*

THINGS MISSED WHEN GONE

Youth is the most valuable thing in the world for one reason, because it generally means health; but not one person in a million realizes that it is the most valuable thing in the world until it is gone and gone forever. If we could have the experience and the knowledge and the will to apply it at 25 that we have at 50, it would not take a generation to entirely make over this best of all known worlds to us; and there is no doubt in the world but that it would be a better world for all of us than it is now. Doctors are advising periodic examinations for the apparently healthy. Just how closely they are practicing this themselves is a matter for speculation. Every newspaper worthy the name, daily and weekly and monthly magazines, and so on, has as leading features the personal health service columns or public health columns. Even the biggest of the New York dailies have their special articles on health in which one feature after another on health questions is emphasized. Every association and meeting, local, township, county, district, state, or national, from the "Smoke Shovelers Union" to the American Medical Association has its programs liberally dotted with speeches and orations and papers on various subjects related to health.

But to come right down to bedrock, how many of us think about these things in terms applicable to our individual selves? It is a well-known fact that any individual who contemplates with horror or fear any serious accident like an automobile turn-over or a railroad wreck always pictures such circumstances as coming with terrific results to everybody present except to the individual contemplating the occurrence. This is probably one of the provisions of nature devised to protect people from themselves and their own character-

istic worries. It seems that the same kind of disposition, mentally speaking, of course, applies to all of us in this field. We have reasonably good health. We are able to move along with our accustomed duties. We get up in the morning, eat our breakfast and go to work. So on throughout the day we are busy with our essential duties through which we make a living or amuse ourselves. This routine goes on from day to day, week to week, month to month, and the years follow each other in rapid succession. This accustomed routine is only varied occasionally as we vary our interests in the three cardinal occupations of mankind—work, love, and play. Little by little we indulge in things that we have been told are not good for our health. We fail to take enough exercise. We eat too much. We especially eat too much of the stuff we should let alone. We indulge in too much tea and coffee. We eat too much meat and heavy food when we ought to be confining ourselves mostly to a vegetable and cereal diet. We neglect our visits to our dentist. We find it convenient to leave off our accustomed exercise. In short, we have a tendency to become lazy and indolent. The majority of us grow too fat as a result of such a régime. This adds to the work put upon the combustion apparatus in our bodies at a time when such machinery should be called on to do less.

The results are inevitable in one way or another sooner or later. As time goes on we find that our breath grows shorter upon exertion; that we find it difficult to keep things going at the same accustomed pace. One day we wake up and find that we are not able to get out of bed. Our muscles refuse to move. If we undertake to force action we are greeted with a terrific pain that leaves no doubt as to what has happened. At

another time nature may warn us in another way or still another. There are many methods utilized in this purpose. Finally we go to see our physician or have to have him come to see us. He informs us that our blood pressure is too high; that a urinalysis shows some albumen and even casts; that the heart has no business to do it, but it is skipping a beat now and then; that there is a tiny bit of valvular trouble. Teeth, if any left by this time, must come out. Although tonsils are supposed to shrink away and disappear at about maturity, sometimes there will be a vestige left or even occasionally full-sized tonsils which will have to come out. At another time the appendix is condemned as the source of focal infection and that must come out. Not quite so often but a good deal worse than any of the rest the gall tract apparatus is pronounced

infected and a serious operation to undertake repairs in that vicinity must be undertaken. In short, there are a thousand and one different kinds of trouble that bring to our mind the all-impressive fact that we have lost something valuable, something that we do not appreciate until we find that it is gone. That something is youth and health and full exercise of mental and physical powers.

The object of these statements is to call attention to as many people as possible who are passing over the equator of middle life at this time to stop long enough to take an inventory while the taking is good and to adopt measures in time to prevent the extreme effects of neglect. Nobody can lose and everybody can gain through application of such forehandedness.

MEASLES

Measles has been unusually prevalent in North Carolina all this year. It is too early to estimate the number of deaths it has directly caused. The number of deaths due to complications following an attack, and the great number of children suffering complications, many of them for life, it will always be impossible to even estimate.

It is the most easily transmitted of any of the communicable diseases. Ninety-eight per cent. of all children exposed contract the disease. It has been known and recognized as a severe and dangerous disease entity for several hundred years. In this State it remains as one of the most justly feared of childhood's serious diseases. One attack generally confers immunity for life. As a rule if a person escapes an attack in early life and becomes exposed later on in adult life the disease attacks with severity. If the disease spreads into a community in which no cases have occurred among the population for a

long time, it is especially dangerous. About fifty years ago it was communicated to the people of the Fiji Islands where it had never been known before. The result was that in about four months' time nearly one-third of the native inhabitants died in the epidemic that followed its importation there.

Up to now there is no satisfactory preventive which can be used easily and practically. A method of protection known as the "convalescent" serum has been developed and is said to give fair satisfaction in preventing attacks or at least protecting against the severity of the attacks. But so far it has not been adapted to practical and universal use. The reason is that it is hard and difficult to secure. The serum is obtained by securing some blood from a patient who is convalescing from an attack from one to two weeks after the temperature falls to normal. The serum thus procured from such blood is injected into susceptible children.

It is said to be useful in terminating epidemics in institutions such as orphanages; and also in protecting, when used, very young children in cases where an attack is especially feared. The use of this serum is said to protect about four out of five children to whom it is given. Such immunity however is short, only lasting from four to six weeks.

Cause Unknown

The infectious agent, that is the germ causing measles, is as yet unknown. It is known however very definitely that it is one of the respiratory infections. It is contracted through direct personal contact or direct contact with fresh nasal or throat discharges from a measles patient. The infectious agent is present in the blood of a patient as well as in the secretions of nose and throat, even before the rash appears. The disease is most contagious during the few days just preceding the appearance of the rash. This is generally three or four days. It is therefore very important for susceptible children to be kept away from all people with a cough or respiratory infection of any kind. The armies in the late war found out that by wearing suitable gas masks, the individual soldiers could protect themselves from the poison gas attacks of the enemy. Without the protection afforded by the mask the result was disastrous. If all persons could be somehow protected against all other persons who have a respiratory infection it is possible that all such diseases would disappear.

Symptoms of Measles

When a child is directly exposed to the disease and is infected, an interval of some ten days to two weeks ensues, known as a period of incubation, before symptoms occur. In the ordinarily severe cases the child sneezes, coughs, has a running nose, watery eyes. There is some rise of temperature. The child complains of

aching, feels a chilly sensation and has headache. After a day of such symptoms, as noted with regularity in the Raleigh epidemic of May and June, the temperature drops, the child apparently feels much better, and the parents if not careful may think there is no measles and it is all over. But in about twenty-four hours or more the symptoms return or rather reappear with increasing severity. Very soon the rash begins to appear behind the ears first, then quickly spreading to the face and all over the body. The temperature goes up again and the child is sure enough sick. The eruption has a kind of flea bite appearance, small red spots running together in groups and being especially prominent on the face. The skin all over the body is discolored and marked by the fantastic figures of the eruption. The rash begins to fade after two or three days during which time the patient is annoyed with intense itching.

The above brief description applies to the ordinary or average type of measles. The disease may be very mild and with little or even no rash at all. On the other hand the disease may be virulent or malignant, ending in death.

In the beginning of an epidemic in a community the disease may be mistaken for smallpox, scarlet fever, for some drug eruptions and before any rash appears, for influenza.

Complications

Fortunate is the child who can recover from an ordinary attack without any complication following. The chief complications following an attack of measles are various ear infections and disease of the mastoid, broncho-pneumonia, and sometimes tuberculosis. Sometimes there is earache, but not always. The ear drums may rupture and discharge take place without pain. Therefore it is wise to have the ears examined by a physician two or three times after an attack of measles, and particularly if

there is any rise of temperature or any other condition indicating that all is not well.

Treatment

Put the child in bed and keep it there; give it plenty of water to drink. Give little food except soups, hot gruels and custards; but a liberal quantity of lemonade, orange juice

and grape juice may be allowed. Send for the family physician and leave the matter of drugs, if any are needed, up to him. It ought not to be necessary to add that a report should be made at once to the health department, a placard secured and placed on the front of the house or apartment and all other children kept away.

DOG DAYS BAD FOR MANY BABIES

For very old people the month of August is generally one of the happiest months of the year, and for very young babies it is often one of the most miserable and dangerous periods. It is a time of sultry days and still, hot nights. For the people who believe in breeding flies, these pests are more plentiful than ever, and unless the baby is protected from their onslaught flies alone are a serious menace to its health and comfort. Babies react much more quickly and readily than adults to excessive heat. The same degree of heat that will cause the ordinary adult to be irritable and uncomfortable will do many times more than that for the baby. Experiments carried out scientifically have shown conclusively that in periods of prolonged excessive hot weather that the temperatures of babies otherwise well will often rise two or three degrees unless every precaution is directed toward preventing such an occurrence. August is a month of suspended activities in many lines of business. Every adult who can feels like going visiting, taking a vacation, and in other ways breaking the ordinary routine of his life. Naturally when there are babies in the family, they are helpless and cannot resist the actions of their parents, even though detrimental to the baby's best welfare. Babies will be dragged around to picnics, to swimming parties, off on visits to distant relatives, on excursions of one kind and another, to protracted meetings in

the country, to moving pictures in town, and to many other places which are in themselves dangerous to them at any time, but especially in very hot weather. For baby and adult the month of August and other days in mid-summer can be made the happiest of the whole year. This can be done very easily, in the first place, by keeping the baby at home. It cannot be written down too many times and told to too many people that home is the best place for a baby all the year round, but especially in the summertime. It might be well for us to enumerate some of the things that may be done to safeguard the baby's health at this time.

If it is a breast-fed baby, there is no need to worry about the food it should be given; but the water that it drinks should be boiled and cooled before giving to the baby. If it is not a breast-fed baby, every drop of milk that is given it should be boiled as carefully as the water for at least three minutes. The items of food proper for the baby, suitable to its age, should be prepared with extreme care and kept free from flies or other deterioration caused by the heat. The baby's clothing should be reduced to a minimum and kept so throughout the hot weather. Often a simple mosquito netting shirt for the baby crawling around, to protect from the few flies that may be impossible to prevent, together with a simple diaper is often sufficient clothing for days at a time. At night, generally be-

tween one o'clock and three o'clock, especially toward the latter part of August, the baby should have a light cover to protect from the chill present at that time of year. If the whole family diet is largely restricted to fresh vegetables and fruit and to fresh milk and cold water for drinks, and if as much time is spent as possible outdoors, there will be less irritation and fretfulness and reaction

against the baby. A great many people know these things and may consider the repetition of such talk in these columns a waste of time and money. On the other hand, there are many thousands of people in the State who very seldom, if ever, stop to think about such questions; and it is for these people and for the benefit of their babies that we keep reiterating such things.

THE INFANT'S SECOND SUMMER

As the hot weather approaches, hundreds of mothers are dreading their infant's "second summer." It is unreasonable to assume that Providence has decreed that the second summer of a baby's life should be its most strenuous period. Therefore, some cause other than Divine decree should be sought. The real cause is easily found.

During the first summer the baby is either breast-fed or is fed boiled milk with scrupulous care from boiled bottles and nipples. In the second summer the baby is allowed strained cereals, mashed and strained vegetables, meat broth, eggs, crisp bacon, etc. With the advent of the more liberal diet there is a tendency to feel that the baby has passed beyond the period of infant care, and a let-up in the minutiae of infant feeding technic develops. The mother is in a hurry; the milk is not boiled; the cereal is not cooked quite long enough; the vegetables are not mashed; the baby is permitted to come to the table and the father feels that no harm would result from sucking a chicken bone, and maybe the next day a ham bone; and so it goes. The deadly ice cream cone is encouraged in many circles, and the infant's total daily supply of sweets is notably increased.

In a recent study of six hundred and twenty-eight normal white infants under two years of age from the Baltimore Welfare Clinic, Wilkins has collected statistics upon the inci-

dence of summer dysentery and diarrhea. Of the children, who were observed from June to November, 1925, more than half had no gastrointestinal disturbances whatever. Twenty-seven per cent. had diarrhea, and 7.6 per cent. or more had dysentery. One-fourth of the infants were exclusively breast-fed. Of these, only 10 per cent. had diarrhea, and none had dysentery.

Fifty-four per cent. of the infants developed gastro-intestinal disease in some form during the second summer, and only 34 per cent. in the first summer. Dysentery appeared to be one of the most common infectious diseases of the non-breast fed.

Wilkins investigated the method of protection of infants against dysentery by oral administration of vaccines, for which results have elsewhere been claimed. The vaccinated infants developed dysentery as readily as the unvaccinated; and so the attempt to vaccinate in this way was entirely unsuccessful. However, agglutinins were demonstrated in the blood of rabbits which had been fed large doses of killed Flexner dysentery bacilli, which shows that organisms administered orally can affect the serum defense reactions.

By these statistics of children among the poorer classes then, the old wives' fear of the second summer appears to be justified. Many more children suffered from gastro-intestinal conditions in the second summer than in the first. The picture of the

second summer is, however, by no means pre-ordained and inevitable, but on the other hand, is readily remediable. Cleanliness, correct diet, and regular care are all that are necessary to prevent its occurrence.

If all utensils are properly sterilized, if the milk is boiled and properly iced, if the more liberal diet is correctly prepared, if suitable cool clothing is worn, the baby will thrive and even cut eye and stomach teeth in its second August without dire results.

During the summer the question is frequently asked, "Will so-and-so hurt the baby?" The answer should be, "Will so-and-so help the baby?" If this cannot be answered in the affirmative, the article in question should not be further considered.

If mothers were correctly informed on this subject, many babies would be saved and the second summer would lose its horror.—*Southern Medical Journal*.

DRAGGING CHILDREN

A friend who is thoughtful and sensitive in reaction to the sufferings of helpless children decided to try an experiment sometime ago in order to be able to estimate the frequency of a most pernicious habit of some adults. The experiment was to stand for one hour on a corner in a city block in the business district of a large North Carolina town during rush hours, when people of all ages are in the habit of passing that particular corner. In the course of the hour nineteen adults, men and women, passed dragging very small children by the hand and going at a break-neck pace. The most of the children looked to range in age from about 2 to 5 years. All of them were absolutely helpless, and most of them were fretfully protesting to their alleged parents.

A small child's legs are very short and normally capable of taking only exceedingly short steps, and these slowly. The effect of grasping a child by the hand and swinging it along at a hurried adult pace of about four miles an hour or more is about equivalent in speed to galloping a horse at full speed down the street, relatively speaking. It soon exhausts the child physically. If the little one protests his reception is a public spanking or a jerk and therefore bad matters are made worse. After traversing the distance of a few feet

its arm and hand are pulled all out of position. Many known cases of damage to the shoulder sockets resulting from just such criminal practice have been treated by physicians. For the very small child it is injurious to the feet and legs and hip joints as well as to the arm socket. The head and neck are thrown all out of position. The chest and abdominal muscles are likewise over-exerted. It is possible to damage the heart action irreparably, and there are many other known bad results following such thoughtless and foolish practice. It is to be hoped that most adults who indulge in such cruel habits to their offspring do so on account of thoughtlessness. It is likely, however, that a large number of them do so from pure sheer selfishness and cussedness. The child is helpless, it cannot help belonging to such parents, and there is nothing that can be done about it except to make the force of public opinion so strong in condemnation of the practice that any half way decent self-respecting parent would be ashamed to be caught punishing a child in any such manner.

The friend who tried the foregoing experiment only proved what any observing person can prove for himself or herself by simply observing while on the streets the habits of parents with children. If an adult is in a hurry and is the custodian of a

child that cannot be left somewhere in quiet, such person ought to feel the necessity of taking up the child and carrying it or be content with arriving at the destination a few minutes later in order to let the child walk along in comfort and safety to itself.

Such habits are even worse and more cruel than the old-time practice of some people of getting in a buggy or on horseback and racing their dogs until the latter were exhausted. The dog was in much better position, however, because it could stop any time it wanted to and lie down and the master was obliged to come back

and get it or wait for it. And even where the dog did not have sense enough to do that it did have full play of all its muscles and was not dangled from the hand of some adult and jostled through a crowded street in a position where breathing is almost impossible.

We would like to urge that our readers try this experiment out, or at least to a sufficient extent to observe the habit prevailing in their particular vicinity, and to call public attention to it in order to at least reduce the prevalence to a minimum on behalf of the helpless little ones.

TEA AND COFFEE BAD FOR CHILDREN

Sometime ago while taking a meal at a well-known cafeteria in a large town in North Carolina we noticed at an adjoining table a man and a woman with two fairly well-dressed young children—a boy of about 5 and a girl of possibly 7. The adults, evidently the parents of the children, had the appearance of average intelligence. They were sufficiently sunburned to indicate more or less an outdoor life. What attracted our attention to the group was, first, the rucus the two young ones were raising on account of not being supplied with something they wanted with their meal. The other condition was the apparent pallor which was evident even beneath the sunburn, and also the extreme whiteness of the eyes and the pale bloodless lips of the children. They kept up their commotion and the parents evidently yielded to their insistence in order to avoid the increasing attention given them from the other diners about in the room, by calling a waiter, who, after a whispered conversation, went to the serving shelf and returned with two steaming cups of hot coffee. They refused to have any milk in the coffee, but with plenty of sugar seemed perfectly happy and content. They drank their coffee to

the dregs with apparently as much relish as any old toper ever did his bottle of handout.

Whether or not the children had hookworm, malarial infection, or other troubles, there is no way of knowing. Whether or not their appetite for the stimulant in the coffee was a result of disease we do not know. Whether or not the consumption of coffee regularly was producing the untoward symptoms we do not know; but we strongly suspect that to be the case.

It cannot be written too many times or repeated too often that tea and coffee (and this includes also the abominable iced tea) is bad for young children. The active principle in tea and coffee is an alkaloid known as caffeine. One cup of hot steaming coffee may contain as much as two or three grains of this alkaloid. The ordinary dose given by doctors, in combination generally with other drugs, is somewhere between a minimum of one-quarter grain and the maximum of one grain for adults. In addition to the damage done to children's nervous system, to their digestive system, to their blood system, and to other tissues in their body by the excessive stimulation of caffeine consumed in coffee or tea, both coffee

and tea, if not made properly, contain large amounts of tannin, the same kind of chemical that is used, that is, tannic acid, in the tanning factories to take the hair off the leather and to make it more pliable. It does not require a great degree of intelligence to understand that a chemical that is powerful enough to affect thick old cow hide is certainly capable of adversely affecting the health of a growing child.

Small amounts of coffee and tea when properly prepared, by steaming instead of boiling, is one of the most satisfying drinks in the world. Small amounts, properly prepared, when

consumed by adults sparingly each day likely do no harm, and may possibly contribute to better digestion and therefore to contentment and happiness. But it spells disaster for young children, and all parents should be firm in refusing to yield to the insistence of their young ones for such drinks. If the habit is not started it will not be necessary to stop.

We would like to urge that children be given plenty of milk and pure water during their growing period and if this is done no other drink is necessary.

JUVENILE DELINQUENCY IN GREAT BRITAIN

Under the above heading the United States Children's Bureau issues some significant statements concerning the status of juvenile delinquency at present existing in Great Britain. It would be well for us to compare the situation in this regard as exists in England to conditions prevailing in North Carolina.

One of the most astounding statements made is that the British Division of the Government reporting on the treatment of young offenders states that there is a decrease of 26 per cent. since 1913 in the number of charges proved against boys and girls tried in the juvenile courts. There has also been a decrease of 69 per cent. in the number of children and young persons sent to reformatories by court order. During the past five years forty schools receiving juvenile delinquents, that is, reformatories, have been closed on account of lack of children to fill them. The committee studying the question has recommended raising the juvenile court jurisdiction from 16 to 17 years, and they have also recommended the practical abolition of imprisonment for young persons under that age. They also recommended rigid restrictions on imprisonment of all offenders under 21 years of age.

These figures would seem to indicate that much better progress is being made in England along these sociological lines than we have been able to achieve in North Carolina. Ill health and poverty and social delinquency are inseparably bound together in problems of this character.

The above calls to mind a statement made to the writer a year or two ago by one of the official physicians of the Jackson Training School in North Carolina. This physician stated that practically every boy that was received at that institution had from one to a half dozen physical defects needing correction, and that in his opinion the problem of their reformation must begin with the physical correction of their remediable defects.

"How old are you?" inquired the visitor of his host's little son.

"That is a difficult question," answered the young man, removing his spectacles and wiping them reflectively. "The latest personal survey available shows my psychological age to be 12, my moral age 4, my anatomical age 7, and my physiological age 6. I suppose, however, that you refer to my chronological age, which is 8. That is so old-fashioned that I seldom think of it any more."—*Success Magazine*.

VACCINATION OF CHILDREN AGAINST TUBERCULOSIS

We are fortunate in being able to publish in this issue a short article very carefully prepared, especially for publication in the BULLETIN, by Dr. P. P. McCain, superintendent of the State Sanatorium, on the subject of Calmette Vaccine Against Tuberculosis. Immediately following the article by Dr. McCain we are publishing, through special permission from the editor, a Paris communication to the *New York Times* on the same subject. This is a matter of peculiar interest to physicians and health officers, and we hope that both articles will be carefully read.

The world has been expectantly awaiting a long time for a spectacular

treatment or cure for tuberculous patients. It may be that this French physician is following the most successful lead toward eventual control and eradication of tuberculosis.

Naturally there is no sensation and no spectacular results immediately forthcoming if the Calmette vaccine is finally proved efficacious and becomes commonly used as is toxin-antitoxin, say, for the prevention of diphtheria. The reason that it will not be sensational is because the treatment is proposed for children that have been peculiarly exposed to tuberculosis, and the proof, pro and con, must await the passage of many years' time.

THE CALMETTE VACCINE AGAINST TUBERCULOSIS

By P. P. MCCAIN, M.D., Superintendent State Sanatorium for Treatment of Tuberculosis.

Dr. A. Calmette of the Pasteur Institute in France has developed a vaccine which he thinks will immunize infants against tuberculosis. His vaccine consists of an emulsion of live tubercle bacilli of very low virulence grown upon a culture-medium of ox-bile mixed with glycerine. Calmette claims that through repeated cultures over a long period of time he has developed a race of tubercle bacilli which have lost all of their original power to produce tuberculosis, but which have the property of stimulating the body cells of infants to form anti-bodies or fighting elements which protect them against tuberculosis.

Calmette began using his vaccine in infants in 1921. Since that time he and a number of other physicians in Europe have used the vaccine in several thousand children. He claims that their results show that the vaccine will protect infants against

tuberculosis in 99 per cent. of cases for a period of three years or longer.

While authorities generally recognize Dr. Calmette as one of the foremost workers in tuberculosis they are somewhat doubtful as to the value of his vaccine. Research workers in this country are not entirely satisfied that the vaccine is entirely harmless. It is given in three doses at 48-hour intervals, each dose containing four hundred million live tubercle bacilli. The Research Committee of the National Tuberculosis Association which is giving more intense scientific study to the subject of tuberculosis than any other organization of the world, is greatly interested in the Calmette vaccine, but before they are willing to recommend it for infants they are going to try it out on animals, both to test its value as an immunizing agent against tuberculosis and to make sure that it will not have any harmful effects. This

Research Committee will give the vaccine an absolutely fair trial, and if it is found to be of value, they will be sure to lend it their endorsement.

At present the only known way to protect infants and children against

tuberculous infection is to make sure that they do not come in contact with tubercle bacilli. For details of the necessary precautions to secure such protection write the Extension Department, Sanatorium, N. C.

FRENCH FAVOR VACCINATION AGAINST TUBERCULOSIS

The success obtained by the use of the anti-tuberculosis vaccination developed by Dr. Albert Calmette, of the Pasteur Institute, has led to a movement among French medical authorities in favor of the universal vaccination of children.

Results just tabulated up to the present year show that from 21,000 cases of inoculation with the Calmette vaccine, which is known as "BCG," there have occurred only 1 per cent. of deaths from tuberculosis, while the tubercular mortality among unvaccinated children is shown by medical statistics to reach 26 per cent.

Professor Calmette explains that his vaccine does not inoculate the patient with the disease, but "suggests" the disease and rouses anti-tubercular bacilli to activity. This has been done through use of vaccine obtained through reducing the virulence of the tuberculosis bacilli by the inbreeding of weakened bacilli until an innocuous vaccine is evolved which is only strong enough to suggest tuberculosis in the system.

The normal reaction to this, thoroughly substantiated by thousands of experiments in which no

deaths are traceable to the vaccine, shows that resistance to tuberculosis is developed in the system. The resistance in most cases is found to endure for approximately five years.

Early experiments were made with laboratory animals, and then with monkeys, over a period of thirteen years before the scientists of Pasteur Institute felt sure enough of the harmlessness of the vaccine to test the effect upon man. The vaccine need not be injected, but may be administered in food.

Of the first 170 children vaccinated not one became tubercular, though most of them were children of tubercular parents.

Despite the apparent success of this vaccine, French doctors report a general hostility upon the part of the public to anti-tubercular vaccination, the same objections being advanced as those opposing vaccination for smallpox and typhoid. But an increasing number of physicians is becoming interested and the use of the vaccine has already spread to all countries of Europe.—*New York Times*.

IN DARKEST MEXICO

The Trained Nurse and Hospital Review of New York in its June issue has the following item:

"Before a child can enter public school or kindergarten in Mexico, the Federal Government has ordered that he must be given the Schick test for diphtheria and the Dick test for scarlet fever. Preventive treatment is given in cases of positive reaction,

and both tests and treatment are free of charge."

There are probably many people who will be surprised to read of such indication of progress in the land of Mexico. From the propaganda that has been emanating from that country during the past few years it would have been probably more in color and more nearly what we would

expect to have seen an announcement that the Federal Government of Mexico had ordered all the school children beheaded. In the United States, and certainly in North Carolina, we have a hard enough time in enforcing a requirement that all school children must be vaccinated against smallpox before being ad-

mitted to a public school. Now here comes the Federal Government of Mexico and simply issues a requirement which will guarantee the protection of the five or six million school children of the Republic of Mexico protection from scarlet fever and diphtheria. Verily public health is making progress.

HOOKWORM INFECTION IN MOUNTAIN SECTIONS

In a trip the writer took about ten years ago in a Ford car through the valley of Virginia in company with Dr. Brumfield, Professor of Preventive Medicine in one of the Virginia agricultural colleges at that time, it was observed by both of us that in this hill country and mountain and valley district in a trip of more than a hundred miles that numerous children encountered along the way gave every evidence of suffering from hookworm. Dr. Brumfield expressed the positive opinion that a greater per cent of the children in the mountain sections and red hill country were infected with hookworms than in the lowlands. Dr. Brumfield is himself a product of the hill country of Virginia, and therefore spoke from experience.

The foregoing is recalled on receiving a letter from a friend in the extreme western part of North Carolina. This friend states that very few privies of any kind outside of the incorporated towns are to be found, and extremely few of the sanitary type of privies except in the very best and wealthiest of the homes in that section.

The writer of the letter describes a trip through the most beautiful of mountain country in which several stops were made at well-to-do homes in which magazines and newspapers and other evidences of culture and modern conveniences were present, but in which a great percentage of the children had the appearance of

suffering from hookworm. In response to a question asked the father of some of these children seen at one home he replied that the pallor of his children at that time was probably due to eating too many green apples. In this connection it is well to record again that the eating of unwashed apples and plums and other fruit picked up from the ground and eaten raw without washing is frequently a source of primary hookworm infection.

The writer of the letter thinks that it would be well to urge, along with other hookworm control measures, that a very important part of prevention is the thorough washing of all fruit before eating.



Children of the County Superintendent of Schools of Hyde County feeding Hyde County corn to a flock of Rhode Island Reds in the rear of the new school house at Swan Quarter. It is said that Hyde County has some of the most productive corn land in North Carolina. These children and the poultry indicate that they can produce other things, too.

SOME VITAL PROBLEMS

Floyd W. Parsons, a syndicate writer of national reputation, writing under the head of Everybody's Business, an article published in several periodicals, is authority for the statement that "Forty million wage earners in the United States lose nearly 10 per cent. of their time on account of sickness; they pay out fifty millions of dollars annually for cathartics; they spend six times as much for fire protection as for health protection; and of this great army of people in America more than a half-million die each year between the ages of 40 and 60 from old-age diseases that are entirely preventable."

Those are vital problems for people everywhere to be thinking about and, what is more important, doing something about. There is probably more outstanding ignorance concerning the simple matter of every-day diet than any other single item of universal importance in the world. Most of our studies of these questions have been done by ultra-specialists or in a most superficial manner by people having only a smattering of knowledge concerning the real fundamentals. Some of these days we will do better for the simple reason that we will have to do better in order to live.

TEAM WORK BETWEEN PHYSICIAN AND DENTIST NECESSARY

The heading of this article might be termed you and your dentist and you and your doctor and the relations necessary between the three of you to maintain normal good health. A writer in a long article on a technical dental subject in a recent issue of a dental magazine made the following important observation:

"Health service is the foundation of modern dental practice. This serves to preserve the health and thereby perpetuates the life of the human body. These aims should be obtained by preservation and prevention."

It is coming to be recognized by all general practitioners of medicine and by dentists that team work between the doctor and the dentist is essential for the patient's best welfare. So important is this relation that in all groups at present of two or more men having office together, or at least occupying a mutual reception room, it will be found that the team is most frequently composed of a dentist and a doctor. In the larger groups of medical men composed of general practitioners, surgeons, eye and throat specialists, and so on, it will

be found that the dentist or dentists occupy a very important position in most of such groups. It is doubtful that the demand of the patient has brought about or is bringing about such arrangements. It is more than probable that the desire of both physicians and dentists, to render the very best possible service to all their patients, is the responsible factor in the arrangement. Whatever the primary cause for it is, it is an arrangement that certainly works to the best advantage of the patients of both doctors and dentists.

There is hardly a problem in general medicine, especially among people of advanced years, but what is closely related with problems of the teeth and other dental questions. The person who has left any teeth at all after 40 or 50 years of age should emphasize the habit of frequent visits to the dentist. Now that such aids as X-rays and other advances are available these visits should be even more worth while than formerly. Pus formation at the roots of teeth in the case of decayed teeth are too frequently recognized sources of trouble in many parts of the body. Such

sources are frequently demonstrated to be focalized areas of infection which the blood stream carries to distant organs. It is a wise physician that can locate such causes or symptoms in the incipency; and naturally it is a wise patient who will give the physician the opportunity to do this.

Speaking from the standpoint of the dental side of the question, dentists are realizing today as never before the vital factors embraced in diet, especially diet of mothers before the birth of children and the diet of babies immediately after birth and during the first few early years, in the formation of good teeth. The question now is hotly argued among dentists of national authority as to whether or not the diet and the presence or absence of the necessary vitamin elements in food are responsible for caries or dental decay in previously sound teeth. This position is assumed by many men of learning and ability in the dental profession

regardless of how much infection or acids might be imposed on the dental structures. This is controversial, but is one thing that the scientists and the dental and medical professions will have to settle. But for our part we do know enough to know that if grandfather and grandmother had good teeth, partook of the right sort of diet, and were protected from certain diseases which might be transmitted to their children, and if they provided such a diet and such care for their own children, it is about a one hundred to one guess that the grandchildren which also have been so protected will have good teeth. So we have no intention or desire to meddle with a controversy about which we know very little. We do want to urge the careful coöperation between patients and dentists and physicians of every individual who prizes his or her health as well as the priceless possession of good teeth.

HAY FEVER

Along about this time of year the sufferers from hay fever become interested in obtaining some relief from their annual attack of hay fever. We have letters from outside of the State inquiring as to what localities, if any, in the State of North Carolina are free from this aggravating and painful trouble. So far as we know there is no locality in the State free from this infection, provided a susceptible individual happens into such locality at certain times of the year. The biological supply houses all over the country have for years supplied to the druggists and medical professions different products, to be administered hypodermically and otherwise, as protectives against this trouble. Most of such treatment has proved disappointing to doctor and patient. The chemist and research workers in the biological houses, as well as those working independently and free from commercial incentives,

have been and are still endeavoring to perfect a line of treatment that will prevent and protect. As yet we are not in a position to recommend any of these things except to suggest that individual patients experiment with such treatments after their physician carefully studies the individual needs of each patient. It is for the most part agreed that in this connection ragweed pollen is responsible for most of the autumnal hay fever in North Carolina. These weeds begin to spread their pollen early in August, and this continues until frost. The frost, of course, stops the pollination of the ragweed along with other flowering plants that might possibly cause attacks. There are a great many different pollens coming from different flowers that may cause hay fever, but, as just stated, the majority of cases occurring in the autumn are due to the ragweed. Surgeon General Cummings, of the United States Pub-

lic Health Service, suggested several years ago that this weed caused probably ninety per cent. of all the cases occurring after August first.

Some of the supply houses dealing in biologicals have now perfected what they call package treatments. That is, they have the required number of doses ready to be administered hypodermically in the gradually increasing units or increasing size doses necessary for the full effects of such extracts. These treatments are based on extracts of the pollens from the flowers or weeds that are supposed to cause the symptoms of hay fever. These houses now have a stable product which retains its full potency. It is easy to administer. It is not painful much. The dose does not have to be diluted, and like diphtheria anti-toxin or typhoid vaccine from the State Laboratory of Hygiene, it is ready for immediate injection. Most of the makers of these products advise that the treatment start at

least two doses a week, beginning the latter part of June, for some five or six weeks and then dropping to one dose a week for three or four additional doses. This is so planned as to cover the period of the year in which the ragweed pollen is most likely to be present. We do not know whether this treatment will do much good, or any good at all, toward preventing the trouble or toward relieving symptoms when present. We merely pass this information along and suggest to all such sufferers that they have their physicians investigate some of these products and try them out if they feel so disposed to make the experiments. The treatment certainly would be harmless, and might afford considerable relief. It is useless to think of moving from one section to another to prevent the infection and so the only definite protection that may ever be expected must come through the prevention of some such methods as discussed.

FEDERAL PRISON TEACHING PERSONAL HEALTH SERVICE

A teacher in one of the big schools in Piedmont North Carolina sends in the following:

A patron was sent to the Federal Prison in Atlanta to do a year's time for moonshining. About the time he came back home, after serving his sentence, the teachers in the school were endeavoring to put on a public health program, including a clean-up a wash-up, and so on, a schedule which all the children know about. When the teacher commenced her survey of the children of the aforementioned moonshiner she found that the program had nothing new to offer these children. One of them said,

"Since 'Poppy' came back from Atlanta we all have to take a bath and change our clothes at least once a week, wash our teeth and comb our hair, clean our finger nails and behave ourselves generally." The child quoted its father as saying since he had got used to bathing every week and keeping clean he could not bear to go without, and all the family had to do likewise.

The foregoing certainly ought to be interesting to a large number of people who think that prison should be a reformatory. It is good to know that satisfactory progress is being made along this line.

Have You Given Your Children Toxin Anti-Toxin?

School will soon be opening and although it would have been much better to have given all very young school children toxin anti-toxin early this summer, it is not yet too late to give them protection against diphtheria now. See your physician or health officer and have it done at once.

PURIFICATION OF SPRINGS AND WELLS

For nearly three-fourths of a century the question of how water is purified underground, and thus remains fresh and safe and potable, has been a matter of controversy in which the views of public health authorities and sanitarians throughout the country have been divided.

The United States Public Health Service has recently issued a report, known as Hygienic Laboratory Bulletin No. 147, dealing with the question of the pollution of wells by means of the water under ground. Sometime following the close of the World War a special board was named to study the subject and to experiment extensively in an endeavor to find out how the underground water becomes purified naturally, and also how far specific bacterial pollution, as well as chemical pollution, might permeate underground soil. A part of these experiments that relate to the distance at which chemical or bacterial pollution might travel was carried on under the direction of Professor Stiles near Southport, North Carolina, and also at the old Marine Hospital at Wilmington, N. C.

The reports of Professor Stiles' experiment, which were published by the Public Health Service sometime back, indicate that they were able to recover chemical pollution in wells up to a distance of 450 feet, and bacterial pollution up to a distance of 232 feet from the ditches or trenches in the ground in which the pollution was placed. This means, of course, that the pollution permeated across laterally under the surface through the dirt proper, and not by simply

running down the ditch or trench to a lower level.

The experiments reported by the Public Health Service concerning the purification of water are of intense interest. To quote the language of a writer in the United States *Daily*: "These investigations have uncovered a hitherto unknown law of nature, namely, that it is the rise and fall of the ground water, due to rain and drought, which permits the water to become purified; were it not for this fact, the underground water would contain pollution of considerable age, possibly dating back many years, and it would be difficult to find pure spring water or pure well water except under an impervious layer."

Such findings of the investigators, and such conclusions as those reached by the editor of the *National Daily*, are based on common sense. People complain of drought damages done the crops; farmers fail in their efforts; and all of us complain. But such an occurrence in a land like ours lowers the water level and therefore causes polluted soil to dry out and the germs to die, and then in subsequent years or seasons of rainy weather when the water line rises, a supply of pure water becomes available for months and months afterward.

These scientific conclusions bring to mind the thought expressed by a poet long ago:

*"The waves that moan along the shore,
The winds that sigh in blowing,
Are sent to teach a Mystic lore,
Which men are wise in knowing."*

ADVANCING INTEREST IN PEDIATRICS

We are publishing elsewhere in this issue an article, accompanied by photographic illustration, of the hospital work carried on at Saluda, North Carolina, for the benefit of sick babies in North and South Carolina especially.

Along with the organization and start of the Baby's Hospital work there, chiefly under the leadership of Dr. D. L. Smith, a pediatrician of Spartanburg, South Carolina, and Dr. Frank Howard Richardson, a pediatrician of Brooklyn, New York, and

Black Mountain, North Carolina, there was organized some six years ago what is called a Southern Pediatric Seminar. This seminar extends over a period of two weeks, this year being from July 25 to August 6. It is a post-graduate summer course in methods of diagnosis, prevention, and treatment of diseases of children. This year Dr. W. A. Mulherin of Augusta, Ga., is dean; Dr. Frank Howard Richardson is vice-dean, and Dr. D. L. Smith of Saluda, is the registrar.

The course consists of a series of lectures on every phase of the subject of pediatrics. The lectures are given by Southern men for the most part who have attained distinction in their profession, and the course is open and usually attended by a number of practicing physicians, chiefly pediatri-

cians throughout the South. It is held at Saluda, because there the opportunity is afforded for clinical study in connection with the Baby Hospital. Saluda is situated in the midst of beautiful mountain country, and therefore the attending group has an opportunity for rest and recreation as well as the finest kind of post-graduate course, associated with so many men of like interest.

The only expense is the registration fee, designed to cover some of the incidental expenses of the meeting, together with the hotel accommodations which, of course, are nominal for the period.

It is a work that deserves commendation and encouragement from everybody interested in the care and treatment of babies.

TREATMENT OF SICK BABIES AT SALUDA, N. C.

By WILLIAM P. HUME

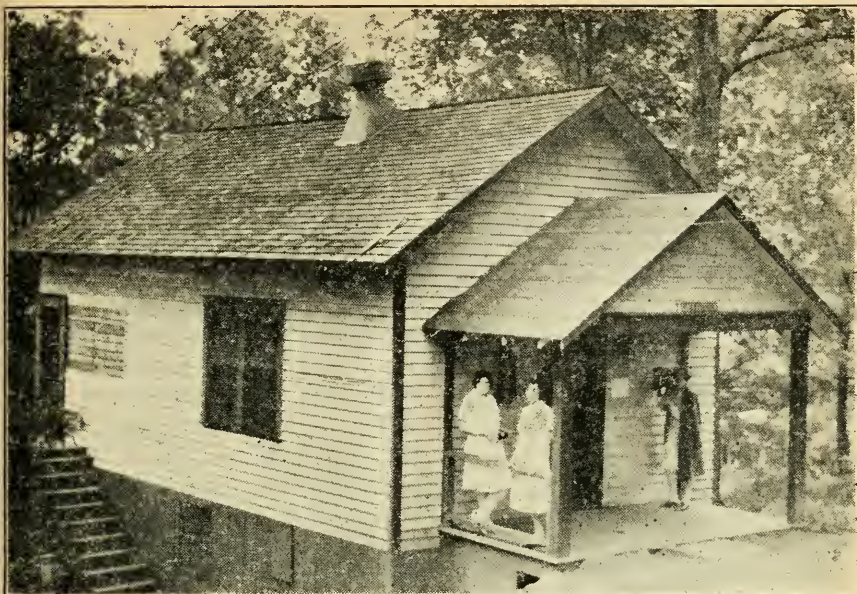
The success of the Infants' and Children's Sanitarium and the Spartanburg Free Baby Camp at Saluda, North Carolina, is indicative of the increasing recognition of the climatic advantages of western North Carolina for children.

The Infants' and Children's Sanitarium was established in June, 1914, by Dr. D. Lesesne Smith, and the Spartanburg Free Baby Camp the same year. This last named institution was made possible through the untiring efforts of the Hon. Charles O. Herron, editor of the *Spartanburg Herald*, and the Rev. W. H. K. Pendleton. It was supported entirely by popular subscriptions until 1922, when the Spartanburg Community Chest assumed the burden.

Fourteen babies and twenty-four mothers were admitted to both institutions in 1914. Last summer one

seven mothers were accommodated at the Spartanburg Camp, and one hundred and seventy-six babies and the same number of mothers at the Infants' and Children's Sanitarium. A 30 per cent. increase is expected for 1927. In addition to the abovementioned figures a yearly average of 500 children have been treated since 1923. In the majority of the last named cases the parents secured accommodations in the surrounding community and brought in their children for thorough physical examination and dietary advice. The capital now invested in both sanitariums exceeds \$40,000.

The mortality has averaged only 4.2 per cent. since 1914, which is a remarkable record considering the desperate condition under which some of the children have been brought in for treatment.



DIET KITCHEN OF THE INFANT'S AND CHILDREN'S SANITARIUM AT SALUDA. SEE ARTICLES ELSEWHERE IN THIS ISSUE.

These two Carolina institutions were the logical answers to questions so many mothers have been asking for decades, when advised by their physicians to take their babies to the mountains away from the heat and sultriness of the lowlands: "Where am I to take my child? What accommodations can I get? How and when am I to prepare the proper food? What kind of milk can I get? Shall I find a doctor? Will I need a nurse and where can I get one?"

The Spartanburg Free Baby Camp is open to sick babies from Spartanburg as well as a limited number from both the Carolinas who are admitted upon proper application. The Infants' and Children's Sanitarium is for the benefit of the children of the South who need and can pay for the special care and attention necessary to carry them over the trying period of their infancy.

The Infants' and Children's Sanitarium is now so arranged that mothers can occupy the same rooms with

their babies, and is divided into three departments as follows:

(1) *Diet Kitchen.* A well appointed kitchen with modern appliances and a sterilizing plant. All food is prepared by a competent dietitian and able assistants. Through a long standing arrangement with a local dairyman a supply of pure milk from tested cows is assured.

(2) *Educational.* A corps of trained nurses assist the mothers in taking care of their children and give special instructions in the proper and scientific feeding of babies. Dr. W. S. Rankin, executive secretary of the Duke Foundation, on a recent visit to this sanitarium, stated: "The services rendered to the mothers in an educational way is undoubtedly one of the best features of this institution."

(3) *Equipment.* The clinic in which the diagnoses of the children are made is thoroughly equipped with the latest laboratory appliances. Four physicians assist Dr. Smith in this work.

A nutritional department has recently been added to the above. This is under the supervision of a woman who has been connected with the New York City Health Department for the past ten years. Her work consists in special attention to children between the ages of five and twelve years—their diet, recreation and the scientific building up of their little bodies.

The Spartanburg Free Baby Camp has all the facilities, laboratory equipment and personnel of the Infants' and Children's Sanitarium at their disposal as well as the efficient supervision of Dr. Smith, who founded the last named institution.

The Seventh Annual Session of the Southern Pediatric Seminar, which is a post-graduate course in the method of diagnosis, prevention and treatment of children, will open July 25th and continue through August 6th. This course is conducted by the leading pediatricians of the South and has on its faculty a representative

from practically every Southern medical college. Special attention is given to the dissemination of the latest developments in the care of children and the course is particularly beneficial to the general practitioner who has not heretofore had opportunity for instruction in this most important branch of the practice of medicine. The Seminar was started in 1921 and has been steadily growing. Over a hundred physicians are expected to attend the coming session, and a new lecture hall is now being completed to take care of the increasing attendance.

This Pediatric Seminar has the distinction of being the only one in the South, and is rapidly gaining national recognition. A \$6,000.00 scholarship fund, covering a period of three years was recently donated by the directors of the Commonwealth Fund of New York City. This fund will pay the tuition and board of forty physicians from eight Southern states for the next three years.

PREVALENCE OF SOCIAL DISEASES

A statistical writer in the *Nation's Health* for June is authority for the statement that there were reported in the United States during the past six years nearly one million active cases of gonorrhea.

In this connection it would be well to consider that a number of states do not require reporting of such diseases. In a number of states which do require reporting only the number, instead of the name of the individual, is reported, and it is hedged about by such restrictions that the whole thing is disregarded by many physicians. Again great numbers of these unfortunate individuals report for treatment to druggists in states where the druggists are allowed to do counter

prescribing, and where they do not have to report such treatment. Still again great numbers, no man knows how many, purchase package medicine according to dirty advertising in cheap periodicals. Some of this stuff is purchased by mail, but most of it is called for at drug stores and other places where it is for sale.

The article aforementioned goes on to state that in 1925, the most recent year for which statistics are available, there were only three other diseases reported in greater numbers than gonorrhea, and one of the other diseases was syphilis. These two diseases constitute one of the most urgent public health problems in existence today.

SEE ARTICLE ON MALARIA IN THIS ISSUE

We are publishing elsewhere in this issue an article on malaria by Dr. C. C. Bass of New Orleans. This article was published in *Hygeia* two years ago, but it is just as timely today as it was then. Dr. Bass is an internationally known authority on malaria; he was president of the Southern Medical Association in 1926, and this little article of his is written in every-day language that is easy for a child even to understand. It will pay any person in North Carolina who lives in an area where contraction of malaria is possible to read this article carefully.

There were ninety-one deaths from malaria reported by doctors in the State of North Carolina in 1926. Nobody knows how many cases of chills and fever, the common name by which malaria is mostly known among the people, are present in comparison to each death reported. It has been variously estimated from ten to fifty cases. One thing every doctor knows who treats malaria in this State and that is that it is seldom a direct cause of death. Like hookworm infection, it contributes to physical delinquency and is for the most part a long drawn-out process taxing the strength of any individual who contracts it and who does not procure a positive cure soon thereafter, into months and years of suffering.

As we have repeated in these columns at various times for the last ten or twelve years, malaria is a disease that may occur anywhere in the world. There is no need for any citizen of North Carolina to become sensitive over the fact that his doctor tells him that he has malaria contracted on his own premises. This is liable to occur anywhere from Alaska to the Panama Canal. Naturally the localities which favor most the breeding of the kind of mosquitoes which

transmit the disease from person to person will be most afflicted by the presence of malaria.

The State Health Officer of South Carolina recently reported in a public discussion at a meeting that a certain town in South Carolina spent fifteen dollars per capita to completely rid the town of mosquitoes. He said that it was worth many times over the cost because the malaria infection fell from about 90 per cent. of the population each summer to zero. There certainly can be no argument against that official's statement that it was worth the money, especially to the people in the afflicted town.

Naturally the viewpoint of the State Board of Health of North Carolina with reference to malaria is a hopeful one because, as we have pointed out in the past, the utilization of modern methods in dealing with the malaria mosquito menace, and also the adoption of other methods of protection against infection by the population, coupled with the fact that improved drainage and agricultural activities in many sections previously known as dangerous areas of infection, are serving to reduce the menace from malaria to insignificant proportions. There should be no let-up, however, in the activities directed against this disease as long as there is one single citizen of North Carolina suffering from the infection contracted anywhere in the State. Turn right now and read Dr. Bass's article.

Social Worker: "And what is your name my good man?"

The Convict: "999."

Social Worker: "But that's not your real name, is it?"

Convict: "Naw. That's just my pen name."—The Virginia Tech.

MALARIA

By C. C. BASS, M.D.

Malaria is carried by mosquitoes. Almost everybody now knows that, but there are certain facts connected with the habits of these insects and their bearing on the transmission of malaria that ought to be much better known. If they were, persons who have malaria would be more interested in getting rid of it.

There are almost a hundred different kinds of mosquitoes in this country. Of these only about four and practically only two (*Anopheles*) carry malaria. The others are harmless as far as transmission of malaria is concerned, but of course, not in other particulars.

Different kinds of mosquitoes have different natural habits as to flight, feeding and breeding. Some habits of the mosquitoes that carry malaria are important in this connection and determine their efficiency as malaria carriers.

Mosquito Must Have Blood Meal

While certain species of mosquitoes are thoroughly domesticated and breed and live near by or in residences, those that carry malaria are more wild and spend most of their time under cover of dense vegetation such as swamps, rank growth of grass, weeds and vines. The larval stage—the “wobble tail” stage—is passed in suitable pools or collections of water. These, the female mosquito selects by natural instinct to deposit her eggs in. They are generally pretty well surrounded and covered by vegetation, usually swampy growth.

After the insect develops wings and is able to fly, the females soon reach the stage at which they produce eggs and in this way reproduce and perpetuate the species. But it is necessary for them to obtain a blood meal

before they will develop eggs. If we rear mosquitoes in captivity and keep them in cages, not allowing them to get blood, they never produce eggs. But let one of them get one blood meal and she develops and lays eggs within a few days. The blood meal that provides the necessary animal protein is essential, therefore, for reproduction and perpetuation of the species—a function which nature always provides for, in all living things.

It is interesting in this connection to note that only female mosquitoes bite. Males have not the necessary “bill” with which to puncture the skin and draw blood. Persons are apt to think that, if this is so, all the mosquitoes around them must be females.

Perhaps the female mosquito spends a day or two near the place in which she was reared, but when she reaches the stage at which she needs a blood meal she flies in one direction or another in search of some animal or a man from which she can obtain it. Some of them seem to prefer animals, but others accept or even select man by preference.

The kind of mosquitoes that carry malaria do most of their feeding after sundown. In fact, they bite mostly in the dark in or around the house and do not venture into a well-lighted room. Much of the malaria transmission, therefore, takes place while the victim is in bed and asleep. After feeding, the mosquito may remain around the house for two or three days or longer, hiding in some dark place during the daytime and perhaps coming out and taking another meal at night.

After a few days she has developed her eggs and the time has arrived to lay them. Natural instinct not only leads her to deposit them on

water but to deposit them under such surroundings as are favorable for her particular kind of mosquito. She does not go aimlessly in any direction, but has a tendency, at least, to go back to the same place in which she was reared. There she deposits her eggs near, or in, the identical pool from which she sprang.

Soon after she deposits her eggs she requires another blood meal to enable her to develop more eggs. She again goes back to the same location, perhaps to the same house, and feeds again. In due time she returns to the pool and deposits more eggs. In this way she goes back and forth from the breeding ground to feeding ground very much as bees fly from hive to clover field. This is continued throughout the life of the insect.

Greatest Danger to One's Own Family

If it should happen that the person from whom the mosquito first draws blood has malaria and, therefore, the germs of malaria—malaria parasites—in his blood, these begin to grow and multiply in the mosquito. In three or four weeks there are many malaria parasites in the mosquito, some of which make their way into what is called the salivary gland. This gland is provided by nature to secrete a substance which the mosquito injects into the skin at the time she bites and which makes the blood flow freely. Incidentally, it

causes the itching, stinging sensation with which all who have been bitten by mosquitoes are familiar. A mosquito with malaria parasites in her salivary glands can and will infect the next person she bites by injecting these parasites into him.

As soon as they are injected into the skin they multiply rapidly and after about two weeks the person becomes ill. In this way and in this way only is malaria carried from one person to another. Mosquitoes get the malaria parasites from one person and after a suitable period put them into another.

The habits of malaria-bearing mosquitoes are such that most of the transmission takes place between persons closely associated with regard to residence; in fact, persons living in the same home. A person who has malaria parasites in his blood is a much greater menace to the life and health of others living in the same house with him than he is to other persons. Most cases of malaria in a home or in a family come from other cases in the same home.

Since malaria is easily diagnosed by proper examination of the blood and is easily cured by proper use of quinine, there is little excuse for one to continue to have it and thereby to be a source of sickness and sometimes death to his associates and loved ones. *Screen the mosquitoes out and cure the malaria.—Hygeia.*

AMERICAN PUBLIC HEALTH ASSOCIATION ANNUAL MEETING, CINCINNATI, OCTOBER 17-21

When will the peak of heart disease mortality be reached? What can we do about measles? How about the common cold? Has prohibition promoted the public health? Are we giving attention to the nutrition of the industrial workers? Why is conservation of sight a public health problem? Is food-poisoning a material factor in shortening the life span? How far have we gone and how far

are we going in public health education? What is the place of the Government in public health administration?

These and many other pertinent questions pertaining to the health of the people will be discussed at the Fifty-sixth Annual Meeting of the American Public Health Association at Cincinnati, Ohio, October 17-21, with headquarters at Hotel Gibson.

This year the Annual Meeting will open officially at noon on Monday and close Friday noon, which gives opportunity for one more session than in previous years. The Ohio Society of Sanitarians and the Ohio Health Commissioners will hold their annual meetings in conjunction with the A. P. H. A. in Cincinnati.

Each of the nine sections of the Association—Laboratory, Health Officers, Vital Statistics, Public Health Engineering, Industrial Hygiene, Food and Drugs, Child Hygiene, Public Health Education, and Public Health Nursing—will hold individual section meetings. In some instances two or more sections will combine for joint meetings. The topic for discussion at the forum session is, "Has Prohibition Promoted the Public Health?" C.-E. A. Winslow, Dr. P. H., Yale University, presiding. One session will be given to the discussion of mental hygiene from the angle of the home, the school, and the industrial field. An analysis will be made by a special committee on the health programs in operation in normal schools and colleges and will be supplemented by constructive suggestions.

Dr. Herman N. Bundesen, health commissioner of Chicago; Dr. William H. Park, of the New York City Health Department Laboratories; Dr. Clarence E. Smith, of the U. S. Public Health Service, and C. W. Larson of the U. S. Department of Agriculture, are among the specialists asked to give the most recent developments in the sanitary production and handling of milk.

Several luncheon and dinner meetings will be held by sections including Laboratory, Public Health Engineering, Industrial Hygiene, Food and Drugs, and Public Health Education. Besides a special session on venereal disease control, a round table luncheon conference has been scheduled.

Trips to points of interest in and around Cincinnati have been arranged by the local committee. An attractive program for the entertainment of the women guests and delegates at the Annual Meeting has been provided by the Cincinnati committee.

Railroads will grant the usual reduced rates to members and fellows of the Association going to Cincinnati for the meeting. Transportation certificates will be mailed to members of the American Public Health Association, September first. Application for reduced fare certificates and for information should be made to Homer N. Calver, executive secretary, American Public Health Association, 370 Seventh Avenue, New York City.

A LIGHTED SEARCH

Two little urchins were watching a barber singe his customer's hair. "Gee," said one, "he's hunting 'em with a light!"—*Chaperone.*

RINGING THE BELL

He did not heed the safety sign,
But rushed ahead pell-mell—
The doctor told the sexton,
And the sexton tolled the bell.
—*Oral Hygiene.*





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SEPTEMBER, 1927

No. 9

A SEPTEMBER MORNING



From beginners on through high school they are on the move again all over North Carolina. Eight hundred thousand strong, enrolled in the schools for another school year. It should be the healthiest, happiest aggregation ever assembled within the borders of the Old North State.

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
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Clean-up Placards	Malaria	Typhoid Fever
Chickenpox	Measles	Typhoid Placards
Diphtheria	Pellagra	Venereal Diseases
Don't Spit Placards	Public Health Laws	Water Supplies
Eyes	Prenatal Care	Whooping Cough
Flies		

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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THE Health Bulletin



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AN IMPORTANT EVENT

During the month of September there is annually enacted one of the most important events for nearly two hundred thousand young citizens of North Carolina that has occurred in their lives since their birth six or seven years previous. This important event is the enrollment of these young future citizens in the schools of the State.

An astounding fact, not realized by many people, is the size of this large group of children. To be accurate, in the school year of 1925-1926 there was enrolled in the first grade of the schools of North Carolina a total of 192,526 children. A few thousand of these, of course, were repeaters, that is, children who had for various reasons failed to make progress sufficient to remove them from the first grades, but the big majority of the children were enrolling for the first time. In the school year mentioned there was a total enrollment in all the State's public schools of 818,739 children. Thus we see that slightly more than 20 per cent of the whole school population of the State is composed of first graders. One point in connection with these figures which we will not undertake to discuss is that approximately 40 per cent of this big enrollment of first graders is negro children. It may be said, however, that there is probably a larger percentage of grade repeaters among the negro children than among the whites.

When a six-year old child, or a seven-year old child, starts to school for the first time, that is naturally the biggest event in its life since its birth. We often hear the expression that a certain individual in fitting himself or herself for the duties of life got off on the wrong foot, or was a misfit, and therefore had not attained the success that

might have been achieved in another environment or with other opportunities. Therefore we may realize how important it is that these children get off to a good start, because the beginning of school work means that they are entering the gate of opportunity which may spell success or failure later in life. It would be well for everybody concerned at this time to take stock, so to speak, and consider seriously the duties of certain individuals who participate in this epochal event, this drama which is enacted annually on or about the first of September.

The Part of the Parents

Naturally the economic burden of piloting the child along this far in life has fallen on the shoulders of the parents. It is their duty to give the child during the first six years of its existence every advantage contributory to the establishment of sound health and high character that it is possible for them to do. During this early period the habits which will stick through life, as manifested in the every-day home life, are formed and it will be hard to change them later on. Habits of diet, sleep, play, work, and conduct generally should be especially studied and applied by the parents. It is especially important that the parents establish a correct system which will require plenty of sleep at regular hours and a sufficient quantity of the kind of food necessary for the building up of the young child's health. It is their especial duty to consult freely with the dentist and the physician at frequent intervals during these first six years in order to know that any defect of teeth or other disastrous

physical impairment may be prevented, instead of waiting to correct such defect after it appears. Another duty of the parents is to maintain such a system of discipline in the home that the child will easily fall into the regulation requirements concerning discipline and conduct when he reports at school. This is not so hard to do as one may imagine, but it is a most important point to be observed for the child's best welfare. It is the duty of the parents to get up in the morning early enough to prepare the child for school without rush and confusion, to insist on a good breakfast, leisurely eaten; and to present the child at the schoolhouse in time for the morning enrollment without unusual excitement or hurry.

The Part of the Physician

It is the duty of the family physician to advise with parents freely and liberally as to the prevention of serious defects which would handicap the child in school work. It is especially necessary that advice be freely rendered with regard to the condition of the eyes, the ears, the throat, the nose, protection from communicable disease, and, on close scrutiny, for appearance of complications after communicable diseases have occurred. In the case of scarlet fever, for example, a complication of the heart may develop several years after a child has had the disease. So-called nervous troubles, digestive disturbances, and other matters of like character should receive the careful attention of the family doctor upon the slightest provocation. The parents here, of course, must seek the aid and advice of the physician before the physician can be held responsible for sympathetic advice. The physician will, of course, advise when necessary such needs as operation for removal of tonsils, medicines when necessary for the cure of parasitic diseases in the digestive tract, chronic malaria, or other handicaps.

The Part of the Dentist

Naturally the parents cannot properly care for the child's teeth unless frequent consultations are held with the family dentist. It is the responsibility

of the dentist when consulted to advise the parents as to what is necessary to insure the child as sound teeth as possible. And naturally here is the duty of the parents to accept without delay the dentist's advice, and the dentist should be willing to execute his own advice in the care for these early pupils, even at the sacrifice of putting off a few of his adult patients. The dentist should make it plain to the parents that the first teeth, or what is known as the milk teeth of a child, which are beginning to shed rather freely in these early grade years, decay very rapidly, and that often the nerve being small, there is not very much pain attached to the process. Thus it is easy for parents to neglect the care for such teeth unless they are alert to the needs of the child and determined to protect its teeth at all hazards.

The Part of the Teacher

When this great aggregation of nearly two hundred thousand children report for the first time to the first grade teachers in every community in North Carolina, to use an old Latin expression, "the teacher then and there takes the place of the parents." That is certainly a serious responsibility. Fortunate is the child who may be placed in the hands of an experienced teacher in the first grade. It goes without saying that the most important position in the school faculty is that of the first grade teacher. Thousands of these children will look back all their lives and bless the circumstance that placed them under the care for this important first year of experienced teachers, many hundreds of whom have grown gray in the service. On the other hand, thousands, together with their parents, will spend many months and years regretting the circumstance which forced upon the young child at this critical age the indifferent supervision of the "flapper." We do not mean by this observation to criticise any young teacher. We mean by the use of "flapper" to apply to the flapper in character and not simply to any young woman who happens to have bobbed hair and wears a short skirt while engaged in teaching first

graders. It is an undisputed fact that there is a large and increasing force of thoroughly competent young women teachers in the State at this time who are well trained and who are making first class teachers of first grades or any other grades in the school. But we refer to the indifferent, careless individual who is often assigned to this duty because she happens to be a relative of some influential member of the school board, and one who cares little for the job at hand. In this case the child is the sufferer.

It is the teacher's specific duty to undertake to establish a standard of work that may be enlarged and increased as the years of growth and expansion go by, and that the child may be impressed with the fact that school means work as well as play; that it is not all play any more than it should be all work. Discipline should be one of the first requirements, because in this important matter the child first comes into contact with the law of the land and should be made to realize at the earliest moment possible that it is quite an enlarged application of the same law and the same discipline that should maintain in any well regulated home. If a child is made to realize during the first grade in school that there are serious things it may not do without expecting punishment, it is more apt to respect the law of the land after graduation later on. The health habits should be emphasized, because the individual is more important than the State; and if an individual is healthy, the first essential for a success in later life is then and there established. A permanent part of the course should be devoted this first year to maintaining good health among the pupils who enter with normal health, and building up and improving the health of those pupils who are handicapped in any way at the start.

The Part of the School Board

The school board should see that competent teachers are employed for this grade; that one of the sunniest, best lighted, and best ventilated rooms in the building is assigned to these young first graders. They should make

it their business to see that the heat is sufficient, that the ventilation is modern, and both heat and ventilation properly utilized and adjusted so as not to in any way impair the health of any child in the grade.

The Part of the Health Department

The health department of the city or county, which is responsible for maintaining the health of any jurisdiction, should keep a close watch every day in the school year, especially over the first graders, and should instruct the teachers at every opportunity possible how to be on the alert for the detection of the first appearance of communicable disease, with a prompt report of such suspicion being made to the health department. The health department should see that every parent is impressed with the importance of having every first grade child immunized against diphtheria and vaccinated against smallpox well in advance of the opening of the September schools. This would eliminate too frequent causes for disruption of activity frequently leading to the closing of schools for certain periods of time. Other communicable diseases should be dealt with in a manner best suitable in the judgment of the health authorities.

The Part of the Public

It is a part of the general public (and naturally parents form a good portion of this part) to support in a disinterested and dispassionate manner the best interests of the schools and to cooperate closely with the grade teacher in everything pertaining to the child's welfare. The parents' part of the public should take especial interest in visiting the school at frequent intervals, so as to be familiar with what the teacher is trying to do, and in helping the teacher in every way possible.

Finally, and in conclusion, it is the part of the general tax-paying public to pay the bills without complaint. The support of the public school system, like anything else that is worth having at all, costs money, and the support should come with a cheerful disposition, with a maximum of good will, and with a minimum of criticism.

QUESTIONS AND ANSWERS FOR TEACHERS AND PUPILS

Teacher: What is the most important requisite for satisfactory progress in school?

Class: Brains and industry.

Teacher: What is the second most important requisite?

Class: Good health.

Teacher: How does average attendance compare with total enrollment every year in the State schools?

Class: More than 20 per cent under.

Teacher: Why the discrepancy?

Class: Chiefly because of loss of time on account of preventable sickness.

Teacher: What are some of the effects of such loss of time?

Class: Several thousand boys and girls have to repeat the grades. That sets them back and discourages them; besides it costs the taxpayers a great deal more money to run the schools. The families also suffer and many children die as a result of diseases spread in school.

Teacher: What are the diseases called that cause so much trouble in the schools?

Class: Communicable diseases, that is, catching disease.

Teacher: What are the most common communicable diseases?

Class: Measles, whooping cough, chicken pox, diphtheria, septic sore throat, smallpox, scarlet fever, and respiratory infections commonly called "colds."

Teacher: Which of these diseases may be prevented?

Class: Smallpox and diphtheria.

Teacher: How?

Class: By vaccination.

Teacher: Is the vaccination dangerous?

Class: No.

Teacher: Why do such diseases spread so rapidly when a pupil catches one of them?

Class: Because the children come into close contact with each other. They use the same drinking cups sometimes. Often they swap pencils, biting the ends, and even swap chewing gum and bite each others apples. They sit close together and breathe in each others faces. When one coughs or sneezes the spray flies through the room. Often

the room is too hot and the ventilation is bad. All such helps the contagion get into the nose or mouth of all the boys and girls in the room.

Teacher: About how hot should the temperature of a school room be kept?

Class: Between 66° and 68°.

Teacher: What is the best method of ventilation for an average school room?

Class: Admission of fresh air at the top of window and using a deflecting board to direct the current of cold air toward the ceiling.

Teacher: When is best time to sweep and clean the school room?

Class: After school closes for the day. The room should be thoroughly swept and all dust rubbed off the furniture with a damp cloth.

Teacher: What is the duty of the teacher when a child appears sick, especially when it coughs or sneezes and appears to have a sore throat, running nose and so on?

Class: To send the child home with a request to the parent to keep such child at home and away from other children until thoroughly well; and if the child does not get better rapidly to send for the family physician.

Teacher: If a child in a school develops one of the diseases called communicable such as measles what should the child's parents do about it after sending for the doctor?

Class: They should stop it from school and notify the teacher at once about what the trouble is so the teacher can warn the parents of the other children.

Teacher: When a disease like measles begins to spread in a school should the school be closed?

Class: No. Unless the local health department thinks best to do so.

Teacher: When a pupil is excluded from school on account of a contagious disease, how long must such pupil remain absent from school?

Class: Ask the local health officer. The period varies for different diseases.

Teacher: When diseases like measles spread in a school who suffers most?

Class: The brothers and sisters of the pupils who are too young to go to school.

Teacher: Why?

Class: Because their little bodies are too young and tender to resist the severe attacks of such diseases in their worst form.

Teacher: What very important thing, in addition to a good building, should the school board supply?

Class: A pure and abundant water supply.

Teacher: For schools in the country where they do not have piped water from the town or city public supply, what type is safest?

Class: A driven or bored (drilled) pump well, properly installed with cement cover on surface of ground and a curved round pump mouth.

Teacher: Should a surface spring be utilized as a permanent water supply for a school?

Class: Never.

Teacher: Is a drinking fountain safe and desirable for city school buildings having access to public water supply?

Class: Some types are safe but many are not. A first class health officer should be asked to approve any type before installed.

Teacher: What other important accessory to safe school environment is necessary for the health and comfort of teachers and pupils?

Class: Safe sewage disposal facilities; either connection with a city sewer system or approved type of sanitary privies.

Teacher: What are some of the other essential requirements for the health of growing school children?

Class: Good clean sound teeth. A healthy throat, good eyesight and hearing, and a body well nourished by

plenty of the right kind of food, and ten to twelve hours sleep in a sufficiently ventilated room every night.

Teacher: What is one of the most important subjects from the standpoint of the health of growing children?

Class: The study of food and nutrition.

Teacher: May we expect a separate lesson on that subject in another issue of the HEALTH BULLETIN?

Class: The editor of the BULLETIN says yes if we want it, and will write and tell him so. The editor of the BULLETIN also says he would like for us to write him and tell him of any other health subjects we would like to have discussed in the pages of the BULLETIN.

A postal card addressed to the Director of the Bureau of Health Education, Raleigh, would be sufficient.



The above photograph represents a type of new school building seen now in all sections of the State. It is a consolidated rural school housing 300 or 400 pupils, well lighted, heated, and furnished with proper seats. These buildings take the place of innumerable shacks in which little attention was paid to the health or comfort of the children.

THE CARE OF DESTITUTE, NEGLECTED, DEFECTIVE, AND DELINQUENT CHILDREN

The headline over this article is a phrase that newspaper and magazine readers meet frequently. It is used by social welfare workers, health officers, school officials, institutional heads, and many other people. Just how much it means to the average reader depends, of course, on circumstances.

Our purpose in calling attention to the fact that there are such children in existence is that right now at the

beginning of the school year is the best time in the world for every community in North Carolina to make its own survey of such children. It is not necessary to call the exact figures, but we may say that somewhere near half of the counties in this State at the present have a whole time health officer or a county physician who takes his work seriously; have a whole time welfare officer, and in addition have one or two

or more county nurses engaged in special or general activities. In counties of twenty-five or fifty thousand and more inhabitants these few individuals cannot possibly make many individual contacts until the necessity for such contacts are brought to their attention by interested neighbors. This is especially true as applied to more remote and isolated communities.

In this month and soon after there will probably be enrolled in the public school system of the State approximately eight hundred thousand pupils. If the results in the field of attendance approximates that of the past three or four years, we may expect somewhere in the neighborhood of twenty-five or thirty per cent average attendance below the total enrollment. The greater part of this deficiency is, of course, due to the outbreak of disease (for the most part preventable) and to the vulnerability of defective children to the more common ailments, such as respiratory disease, which keep them away from school. There are, however, great numbers of destitute children; or if not in absolute destitution, owing to crop failures, economic depression of certain industries, perhaps to illness in the family, and to many other causes, there are undoubtedly many children which might be characterized certainly as near-destitute. Many children who are half-orphaned frequently come in the neglected class. Then there are the larger numbers of defective children whose

physical defects and frequently malnutrition condition could easily be remedied. A good idea for every community: that is, every organized community, such as the legal school district existing in every square inch of the State's territory, would be to make a systematic effort to locate such children and to take such measures as could be executed to remedy the condition and enable all such children to be properly enrolled in school.

It is a fact that practically all the children and young people of early adolescence that are committed to reformatories and various institutions in North Carolina are found on admission to be suffering from one or more physical defects, nearly all of which taken in time could have been remedied to the great benefit of the children and the State at large. Some wise person has said that the individual is of a great deal more importance than the State. The statement is certainly true. Without the individual there would be no State, no government, and no society of any kind. The aggregation of small individuals mounts to large proportions when the State as a whole is considered, but which might seem negligible if only one community is considered. A united effort on the part of all the State's individual citizens right now at the beginning of September would result in a great deal of good and timely help to thousands of unfortunate children.

THE SMALL SCHOOL CHILD'S READING

We often wonder if the parents of even average intelligence and financial security realize the importance of their children early making friends among books. To some parents we know there is no joy equal to the observation of one of their children manifesting such an inclination at an early age. In the first place, it is a great deal more important for children to begin at an early age to cultivate the reading habit and the love for good literature than it is that they be required to read any especial book or books. A child that establishes at an early age, whether through home or library or school contact, a love for good litera-

ture is then and there assured one of the strongest bulwarks against the vicissitudes of life in later years. When a child establishes the habit of reading good literature, he is not only building the foundation for an education that will stand him in good stead all his life, but he is assuring himself and his family that he will more than probably live a clean life and be of useful service to the community in which he lives. Parents should encourage in every manner possible the reading habit among their children. Too many of our school libraries, especially in certain districts, are allowed to accumulate dust, to have the books

piled helter-skelter instead of being used as the central point in the school's activity every day in the school year.

With the beginning of school this month and the assuming of responsibility of school work it means a lessening of the opportunity that children have for general and promiscuous reading. The child goes to school early in the morning and, even in the first grades now-a-days, is held with little intermission for at least four hours. This is a long time to a six-year old child used to being active and moving all the time while awake. Therefore it is very necessary that when the child leaves school and completes his midday meal that he have all the afternoon for outdoor exercise. This outdoor exercise should be unrestricted, so that the child can relax completely, mentally as well as physically, in order to build back and restore the loss of vital energy consumed in the morning school session. Even the small child in the schoolroom must be keyed to high pitch and must be alert to the work of the school exercises. A good plan would be for the parents to insist on children taking time to eat leisurely on returning from school a little after midday, as most of the schools now

are conducted, especially in the towns and cities, and then after completing the midday meal they should be sent out to play except on the few days of extreme cold weather, which fortunately such days are few and far between in this State; and with the exception of an occasional cold rain or snow the weather seldom gets too cold in this climate for children to play out of doors.

The child should be called in early in the evening, say a little before dark, and then would be a good time to allow them an hour with their favorite books. After the evening meal the lessons that have to be learned for school could very easily be disposed of and the ten to twelve hours sleep necessary for young children could be easily secured. Building up standards of taste for good literature among children is naturally a gradual process; it cannot be hurried, and no two children react in the same way toward the same book. The parent, the teacher, and the librarian should gently guide the child into a selection of books and magazines known to conduce to the formation of a lasting taste and interest in good literature.



A SAFE GRADE CROSSING

Since 1921 the State Highway Commission has completed 36 overhead crossings like the picture above; and it has also built 36 undergrade crossings. These 72 crossings eliminate some of the most dangerous grade crossings in the State and result in saving many lives. The Commission during the period mentioned has eliminated a total of 304 grade crossings that were veritable

death traps prior to July 1st, 1921. This has been accomplished by various means such as straightening roads and so on. There are yet 455 grade crossings on the state system alone, but many of these are on spur tracks and log roads. This class of life-saving work is on a parity with the prevention of typhoid fever.

A USABLE HEALTH PLAY FOR ELEMENTARY GRADES

By ELIZABETH KELLY

Any sort of machine must be kept in good working order, with every part functioning if good results are expected. This is equally true of the human machine which we call the body. Food, exercise, sleep, cleanliness and other factors determine the efficiency of the human machine.

One need only look at a group of school children to know that many of them are not healthy. Lack of nourishing food and proper habits have almost all to do with this. The further fact that no unhealthy person, old or young, can function any more than can a broken machine, should make teachers and parents intensely interested in helping children find early the best ways and means for building strong bodies.

This short, simple play is presented for the purpose of furnishing a definite, usable plan by which the children may be interested in learning for themselves how they must build strong bodies for themselves if they are to have strong bodies—and no child will deliberately cripple himself if he is convinced the choice is with him.

The play may be used as a part of a general program supplemented by songs, poems, games, etc., or it may be used as a grade lesson.

BODY BUILDERS

Cast

Teacher—A capable school girl.

Class—Four boys and four girls.

Mr. Nourishing Food—A healthy, wholesome school boy.

Miss Refreshing Sleep—A dignified, calm school girl.

Mr. Healthful Exercise—A strong, active school boy.

Miss Bodie Cleanliness—A clean and neat school girl.

Scene—A school room with teacher and eight class members ready for recitation.

Teacher: What is our lesson today?

Class: Body Builders.

Teacher: Our motto?

Class: Mens sana in corpore sano.

Teacher: What does this Latin motto mean?

Class: A sound mind in a sound body.

Teacher: What is the golden text of the Body Builders?

Class: The body is the temple of God.

The Lesson

Teacher: Do all grown people have the same kind of bodies?

First girl: Some grown people are larger than others.

First boy: There is a lot of difference in the color of their skins.

Second girl: Grown people are unlike in the shape of their noses, eyes and their whole faces.

Second boy: They are unlike in their build, too. Some are stocky and some rangy.

Teacher: All that you say is true and most of these differences you mention are because people belong to different races and are of different nationalities. Do you notice any other difference in the appearance of the bodies of grown people?

Third boy: Some have sound bodies, others are crippled.

Third girl: Some look strong, others look weak.

Fourth boy: Some look sick, others look well.

Fourth girl: Some bodies look tired, others look rested.

Teacher: Why are some bodies strong and others weak; some sick and others well; some round and others crippled; some tired looking and others rested?

First girl: They just happen that way.

First boy: They just grow that way.

Second girl: They are just meant to be that way.

Second boy: They are just built that way.

Teacher: Remember we are our own Body Builders.

Third boy: Do you mean I can keep things from just happening to my body?

Third girl: Do you mean I can make my body grow just like I want it?

Fourth boy: Do you mean that I can change my body?

Fourth girl: Do you mean that I build my own body?

Teacher: Well, perhaps I do not mean all of that, but I do mean that the body like any other building shows the kind of material the builder used, and also the kind of builder.

First girl: What kind of material can we get to make our bodies strong and beautiful?

First boy: Where can we get this material and what will it cost?

Second girl: Who will show us how to build our bodies out of this material?

Second boy: Can we begin right now?

Teacher: I know four Master Body Builders who will furnish material and show each of you how to use it to build for yourself the best possible body.

Class: Who are they, and where are they? We want to know them now.

Teacher: They are here and I will introduce them to you.

Class: Oh, we are so glad. Please introduce them.

Teacher: This is Mr. Nourishing Food, one of the best of all Body Builders.

Mr. Nourishing Food: I have materials that you must use if you are to make your body into the best possible building, and I can show you how to use my materials in the best ways.

Teacher: This is Miss Refreshing Sleep, a magic builder who knows how to teach you to use her needful materials.

Miss Refreshing Sleep: My materials are restful and I will teach you to use them while you are resting. I know you will like to use me.

Teacher: This is Mr. Healthful Exercise. He is another master builder whose materials you must use.

Mr. Healthful Exercise: You will have lots of fun learning from me how to use my materials in helping to make your body strong.

Teacher: This is Miss Bodie Cleanliness with her necessary aids to body building.

Miss Bodie Cleanliness: Your patience and faithfulness in using my materials as I can teach you will reward you in making your body attractive as well as strong.

Teacher: Now, you know the four Master Body Builders and you may each learn from them how to build your own body from day to day until it is full grown and then how to keep it in the best possible repair while you live in it.

Class: May we begin right now?

Teacher: Yes, begin now and continue to find out all you can about the materials used by Mr. Nourishing Food until our next lesson. Mr. Nourishing Food will then be present and will teach you how best to use his materials that you too may learn to be a Master Body Builder.

Class: Will these other three Master Body Builders come and teach us too?

Teacher: Yes; one will come at a time until you have learned of them all. They are all equally able to help, but first we will study and find out all we can about Mr. Nourishing Food's materials until he comes to show you how to use them at the next meeting of the Body Builders.

Class: Hurrah for the four Master Body Builders! Hurrah! Hurrah!

"OUR HEALTH HABITS"

Under the above title Rand, McNally and Company have recently published a new book written by Whitcombe and Beveridge. This book is primarily intended for school use, and teachers will find it a valuable aid in presenting health programs in either regular classroom work or in the staging of short entertainments. The primary purpose of the book is to assist the teacher in the work of urging upon the pupils the importance of establishing habits of health at an early age. The book contains many valuable plays along these lines, and one of the attractive features of the book is that it is divided in its subject-matter according to grades, providing two lessons every week for eight different grades. That makes it possible to consider a new health subject each month from September to May.

OLD vs. NEW METHODS IN CHILD TRAINING

It used to be supposed that:

Children should obey blindly and unquestionably every adult command.

The child should be forced to do hard tasks for the sake of discipline and will-training.

All hard tasks were valuable merely because they were hard.

Making children do unselfish things give them habits of unselfishness.

Child training should be a matter of unchanging routine.

Now we believe that:

Obedience should be based on understanding.

The child's interest should lead him to do the task, whether it is hard or easy.

The child's attitude toward his tasks makes them valuable or otherwise.

Unselfish actions must bring satisfaction to the child if he is to repeat them.

Child training requires a constant readjustment of routine and of ideas.

From "*Children*," *The Magazine for Parents*.

EDUCATION THROUGH PHYSICAL EDUCATION

By JAMES EDWARD ROGERS,

Director National Physical Education Service

The need for physical education as part of our school system should be most apparent but unfortunately it is not. We seem to forget that forty per cent of the adults, men and women, have physical defects, many of which could have been remedied with a proper physical education program. Over sixty per cent of the school children have physical defects which can be wiped out through physical inspection, hygiene, exercise, and physical training. A physically fit person is more likely to be efficient, happy and useful. A physically fit nation is better prepared to meet any emergency either from within or without.

Physical Education Means Better Citizenship

A physical education program means health, personal and national vitality, and a better citizenship. Physical education is not merely building big muscles and bodily strength. It does this and more. It is the training for bodily and mental health through periodic physical examination, personal hygiene, and a rational program of active play and exercise. Health, cleanliness, poise, rhythm, vitality, and mental alertness are all objectives of

the true physical educational program. Such a program includes physical fitness tests and measure organic growth and development. It means poise as well as strength. It encourages mass competition so that all may employ the joys of active sport. It means periodic physical inspection and examinations to discover and correct remediable defects. It helps in posture and health service. It believes in recreational opportunities for the industrial worker. It promotes recreation for adults and play for children.

Health Through Physical Education

Physical education is health education. It is recreation. It is hygiene. It is education in the truest sense. "*Mens sana in corpore sano*" is as needful today as yesterday. Under present industrial conditions of living and work it is more necessary than in the past that our children be guaranteed the opportunity for physical activity and exercise. The frontier has disappeared, chores and errands have gone; we live in an age that deprives the average boy and girl and adult of the joys of the great out of doors. The old tasks and pastimes of the home and the shop have disappeared. Man

must find means to develop his organic vitality and health outside, in the playground or gymnasium. More and more because of our artificial, specialized, industrial, urban life, we must provide means by which we can actively pursue those activities that will preserve our organized development essential to health and growth.

Character Building in a Real Sense

Physical education programs promote the real lessons of education. Such programs promote behavior, and behavior is the end of education. Through sports and games children develop good sportsmanship and this means character building in a real sense. On the play field with the team, the boy and girl are stimulated to practice the lessons of control, poise, and good behavior. They learn to smile in defeat, to be generous in victory, to follow the leader, and to hold the line with courage and not to give in, and to fight hard—such are the lessons of life. They are as real as the geography lessons and they carry over into life, for it is such qualities that are demanded of us all as we go through life. These lessons cannot be taught nor preached, they must be put into active practice in the thick of the game—the game of life.

Physical Education Values Attained

Physical education is not merely building big muscles. It is training bodily and mental health through periodic physical examinations, personal hygiene and a recreational program of wholesome physical play and exercise. Health, cleanliness, poise, rhythm, vitality and mental alertness are all objectives of the true physical education program.

Physical fitness tests measure physical development. Poise is most important for girls. Cleanliness is essential to health. Competitive games stimulate participation in vigorous physical activity. Physical education more than any other school department, because it harnesses the boys' and girls' impulses and emotions, can train for behavior. Nowhere else can a teacher train for right conduct and develop the sense of fair play, as in the games of the

student. Here one can mould character and bring ethical judgment into action. We learn by doing and a child learns the rules of the game of life in playing the games he enjoys.

To carry out this new educational interpretation of physical education over thirty-three states have established through legislative action physical education as part of the state school system. Thirty states have state programs through state manuals that guarantee state-wide schedules. Sixteen states have state supervisors of physical education in the state department of public instruction. These men are all thinking in terms of educational play and athletics. Physical education programs are not confined to the gymnasium. They include health programs, playground programs and athletic programs whether indoor or outdoor in the classroom or on the playing field.

Educators are coming to see the great educational value of health and physical education as a legitimate subject in the school curriculum. It is receiving more time and more credit and is becoming a prescribed subject. Ex-President Elliott of Harvard just before his death asserted that physical education was one of the most vital and potential educational needs in the educational system.

Professor W. H. Burton, University of Chicago, wrote and then proved his point. "Physical education should be regarded as a part of the general educational program, just as are literature, history and the three R's. The objectives of physical education properly conceived are much broader than physical training and health. Contributions may be made to the general aim of education, namely, the development of a well rounded personality, a loyal and efficient citizenship."

"Reviewing the ground we have covered, we have seen that motor activity is the chief characteristic of the young; whatever passes within tends to work out into appropriate conduct. 'The child thinks with his muscles' is coming to be an accepted doctrine," writes Professor M. V. O'Shea.

Dr. G. E. Dawson says, "How then, may physical education train the human mind? How may physical educa-

tion become a means of developing a cultured intellect, and so take its place among the recognized forms of culture material? It may do this in three ways:

(1) By sensitizing the nervous system so as to bring the life consciously into more intimate relationship with its environment.

(2) By helping to integrate the factors of consciousness so as to make thinking more effective.

(3) By bringing under more perfect control of the mind, and so accomplishing a more perfect control and mastery of the environing world."

These three points he proved in experiments at the International Y. M. C. A. College at Springfield, Mass.

With the development of the idea that education is training for behavior and that we learn through doing, physical education in its educational aspects rather than its mere physical training

activities, will assume a large place in future educational systems.

Because of this, the Playground & Recreation Association of America financially makes possible the work of the National Physical Education Service.



Beaufort High School building and Carteret County Courthouse on same plat. It ought to be easy for the attendance officer to do his duty; and for the class in civil government to function in a practical manner.

DOCTOR PARK ON SCARLET FEVER PREVENTION

Soon after the assembling of schools in the fall throughout the State there is always an occasional case of scarlet fever in some place. While it is a cause for apprehension on the part of parents and health officers, such outbreaks very seldom reach epidemic proportions. A question for every health officer and every parent to decide is, how far it is possible and practicable to utilize the scarlet fever antitoxin.

Recently before a gathering of more than one thousand health officers and public health workers in the state of New York at Saratoga Springs, the New York State Board of Health publication, *Health News*, quoted Dr. Park in a statement to that assembly in the following language:

"The latest developments in the prevention and treatment of scarlet fever were presented by Dr. William H. Park, director of the research laboratories of the New York City Department of Health. On account of the severe reactions which frequently follow the use of the scarlet fever antitoxin and the fact that only about 10 per cent of exposed persons develop the disease he felt that the use of this

form of immunization was still open to question. He did advocate the use of the vaccine for immunizing children who gave a positive reaction to the Dick test but only when an outbreak threatens, and not as a general procedure at other times."

THERMOMETER SHOULD BE STERILIZED

Do not put a thermometer into your mouth until it is washed clean, wiped dry, disinfected with alcohol or with a solution of bichloride of mercury or some other disinfectant equally powerful as a germicide. Typhoid fever cannot be taken except by swallowing the typhoid germ. It is being recognized more and more that unclean thermometers can and have caused many cases of typhoid fever, therefore, they should be disinfected thoroughly. The real truth is temperatures are taken too constantly in many instances. Fever is not a disease; it is a symptom, and whether high or low makes not a great deal of difference unless it runs over a long period of time. As a general rule it is safe to advise people not to trouble to take their temperature unless advised to do so by a physician.

A DUAL ALLIANCE

PUBLIC HEALTH AND PUBLIC EDUCATION

By D. E. FORD, M.D., F.R.G.S.,

Craven County Health Officer

The effectiveness of public health activities depends directly upon the practical application of the science of preventive medicine, and it is results that the taxpayer, who is obviously most vitally interested, demands. A Board of Health, whether of local, state or national scope, may equip itself with physicians thoroughly grounded in the principles and trained up to the minute in methods of research and organization and still be in greater or less degree a failure. The fact discovered and proved by long and patient work in our research laboratories do not of themselves lower mortality or morbidity rates. The research man and the teachers may discover what ails the public and recommend the necessary line of treatment, but another corps of enthusiasts as patient and as versatile must convince the public of its ailments and apply the treatment. They must first be able to convince the public of its need and then persuade it to take the remedies as directed.

Some of us who read and attend association meetings and health conventions as well as work in the rural and city homes feel that there is a wrong emphasis laid in the whole question of preventive medicine. The throb in the refrain, the beat of the big drum is eternally—"more babies, fewer deaths, added years, days or minutes to the average span of life." While this emphasis may be necessary and natural because in statistics and records we have the only practical measures of results, and because the prolongation of life is a big urge in every human being; another beat, that is already being felt should be given equal or greater strength. "Better babies—even if not more; a happier life—even if not longer; children—healthy in mind and body, able to acquire the things that lead to happiness."

Public Health is a broad question, and while it cannot claim to be the sole source, it could and I feel, should make

more definite effort to establish in the public mind its rightful place as the corner stone upon which progress of public welfare and happiness depends. Without community health—nothing.

It is upon the local public health unit that the vitality of research in preventive medicine depends. It is one thing to know the theory and another to apply it. Public health administration has few general rules. Every city and county has its own special conditions—its political rings, its inter-relationship of influential families, its financial status, its religious quirks, and its degrees of denseness of ignorance and indifference. The results depend upon how well the health administrator can read the conditions he finds, and how adroitly he can use them to his ends. He must understand his community and give as well as secure coöperation. Coöperation is the vital point.

But, although there are few, if any, universal rules in the administration game, there is one channel through which success must be sought, through which every advance gained, however small, is permanent advance, namely, public education and intelligent, controlled publicity. Setting aside other phases of this work, how can we gain and most efficiently use publicity? How to get public interest and coöperation? We can write for newspapers and distribute thousands of pamphlets, but we cannot make an ignorant community read. We can give addresses and lectures but the farmer who gets up every morning at three will doze off at eight or nine no matter how eloquent the speaker. But in every race and condition of society touch one chord and every mind is alert, every heart responds whether with pleasure or with pain. This chord stirs every listener. The pocketbook. Prove to the community, whether rural or urban that public health pays and you will have opened up a road for health education.

So a health unit has always one principle upon which results depend—controlled publicity; and one universal means of applying this principle—save public money. Every public health activity should have an educational slant and promise to be a financial gain to the community. Public health must be able to convincingly prove near or distant economic returns and at the same time educate boards, parents, teachers and children in sanitation and the prevention of diseases.

Our periodic statistical reports are necessary but are inadequate gauge of our activities. Many phases of the routine work can be measured in this

used by it without tact and consideration. We must not forget that the schools have grown up on a foundation of academic education, that the school time of pupils and teachers is filled to overflowing and that they must produce results measured by standards set by their superior officers. We must be careful lest our public health methods whatever may be their future academic value to the school, may not sometimes be merely tolerated as necessary but irritating interruptions.

Cöoperation is the aim of this School Health Score presented here. Its aim is to create mutual active interest of five groups, School Board, Taxpayers,



A SEPTEMBER DAY IN THE MOUNTAINS OF GRAHAM COUNTY, N. C.

way but the results of the real work will be for a long period hidden. These will blossom years hence.

As a practical method of applying health education, the Craven County Health Department has devised a system that has proved very effective. It is based upon the fact that this type of education must reach two groups—the school child and the adult. The health and productive powers of the next generation of the taxpayers depends upon the habits, vaccinations and freedom from physical defects of our present school children. Through the children too and at school gatherings we can awaken interest and secure active cöoperation of nearly all adults.

But while it is obvious that the public school system is our best educational channel, we must always keep in mind the fact that it is not the property of the Health Department; to be

Teachers, Parents and Pupils, each having something to gain and lead by the Health Department. It is educational, it combines financial gain with the universal love of competition, and it causes each school to invite the assistance of the Health Department.

Two years ago before the close of the Spring term, a contest based upon the health score was announced, and a letter of explanation sent to local committeemen and teachers. It was to be an annual contest with a first prize of \$100 and a second and third of \$50 and \$25.

Purpose:

To promote a continual interest in the upkeep of our school buildings and their grounds.

To create in our children habits of cleanliness and sanitation, loyalty to their own school and respect for school property.

CRAVEN COUNTY HEALTH DEPARTMENT

SCORE CARD FOR SCHOOLS

SCHOOL		ENROLLMENT			
Equipment and Sanitation	Score		Health	Score	
	Perfect	Allowed		Perfect	Allowed
TOILETS	50		VACCINATION	300	
Cleanliness.....	40		Smallpox.....	100	
Repair.....	10		Typhoid.....	100	
WASH ROOM	40		Per cent who have been immunized in 3 years.		
Cleanliness.....	20		CONTAGIOUS DISEASES	100	
Powdered or Liquid Soap	10		Smallpox	{ Per cent of cases in school during year deducted	
Towels.....	10		Typhoid		
ROOMS AND AUDITORIUM	60		Diphtheria		
Cleanliness			PHYSICAL DEFECTS	100	
Floors.....	20		Untreated after notification of parents		
Windows.....	20		Teeth.....		
Desks.....	20		Tonsils.....		
REPAIRS	80		Eyes.....		
Window Shades.....	10		Hearing.....		
Lockers.....	10		Malnutrition.....		
Doors.....	10		Other Defects.....		
Windows.....	10		Total.....		
Lights.....	10		Per cent deducted.....		
Heating System.....	10		WEIGHT		
Desks.....	10		Percentage of pupils up to within 10 per cent of normal weight.....		
Roof.....	10		Total.....	600	
DECORATIONS	55				
Health Posters.....	30				
Flowers.....	25				
GROUNDS	120				
Cleanliness.....	30				
Grading and Drainage...	40				
Play Ground Equipment.	50				
Total.....	400				
DEDUCTIONS			Equipment and Sanitation		
No. Plumbing.....	30		Health.....		
No. Sanitary Drinking Fountains.....	30				
No. Scales.....	10				
No. Central Heating.....	30		Final Score.....		
Total.....	100				
Final for Equipment and Sanitation.....	400				

DATE....., 192.....

County Health Officer

To break down opposition or indifference to vaccinations and other measures for the prevention of contagious diseases.

To promote more active measures for the remedy of physical defects.

One aim has been to make this score

as simple as possible, while at the same time covering all essential points that bear upon health education. It would defeat its purpose if it were not so plain as to be easily understood by any one studying it a little. The possible total score is 1000 points. There

are two main sections; Equipment and Sanitation with 400 possible points; and health 600 points.

For the division of Equipment and Sanitation the final score given is the average of monthly inspections made by the Sanitary Inspector or the county health officer. Each month during the school term each school is scored at a time unexpected by the principal or janitor, and in April averages are made for each separate item as well as for the total. During each visit the school's sanitary failings are discussed and suggestions made as to the best methods for their remedy. In addition to this the Health Department takes up with the county superintendent of schools or with the superintendent and the school board, matters pertaining to sanitary equipment and improvement which cannot be handled by the school principal or janitor.

The points allowed under the second section, Health, are computed during the last week of the school year from the records in the office of the Health Department and show the results of the year's work in each school. Vaccinations or preventive inoculation for each of the diseases over which we have control, is carried out intensively once during the year, and in addition to this follow-up work is done at any time at the request of any school principal or whenever a group of children is ready.

The prevention of the spread of contagious diseases is facilitated through the interest of the school children. Only the diseases over which we have pretty definite control are included. A school is hardly responsible for an epidemic of measles, chickenpox or whooping cough but can definitely, through vaccination and vigilance, eradicate typhoid, diphtheria, scabies, pediculosis and smallpox from among pupils and teachers. The children are encouraged to report rumors of "breaking out" or of severe illness in their home localities and the health department investigates every report. The teachers are on the alert to spot the first case of scabies or pediculosis and call on the department for confirmation and parental advice.

All parents are notified of physical defects found on routine or special examination of the pupils. Follow-up let-

ters are sent and house visits made. Remedy of defects are reported by teachers or pupils and checked up by the department. Near the close of the term a special check up is made to complete the records.

Weighing is done in the early months of the school year and special weight cards given to parents of the children 10 per cent underweight. Each teacher has a list of the malnutrition cases in her room. These are reweighed for final checking at the close of the term.

The results of this contest after two years trial have been extremely encouraging as well as interesting.

And let us speak in passing, of one unforseen result. It has put the Health Department on its mettle to have its records complete up to date and open to inspection. It has detected weakness in our own routine. It has made necessary more thorough work.

The interest of principals, janitors and pupils has been so stimulated that some buildings that were deteriorating were put in repair and kept so. Walls were re-whitened, floors oiled regularly, locker doors repaired, pump and tool houses put in order. Landscape gardening has been done and playgrounds equipped. All this without extra assistance from the school board.

In several schools a system of closing hour inspection of rooms was inaugurated by the principal with a star or other honor given to the neatest. In three schools where certain improvement in sanitary equipment was needed the principals became so persistent in demanding their rights as to get immediate results.

Activity and initiative shown by principals in health and upkeep of their schools has been recognized by the Board. Interest and training in school hygiene on the part of applicants for teaching positions is to be given definite weight in the consideration of their acceptance. Nearly all of our primary teachers have been keen in the use of one of the several accepted methods of teaching health habits and personal hygiene, in health posters and malnutrition graphs.

Through the efforts of the teachers the attitude of every school toward vaccinations and inoculations has shown a great change. In only two

small schools dominated by extreme promiscalism, is the school sentiment unfavorable. In all the others only non-consent on the part of a few parents prevents 100 per cent protection. Among the pupils it is considered the proper thing to "take all the shots." And with the teachers and pupils won, parental opposition or indifference will fade away.

Every teacher has a list of those in her room unprotected against smallpox, typhoid or diphtheria and of those suffering from physical defects including malnutrition. Nearly all have developed a keen interest in noting the relationship between backward classroom work and health and have become active assistants to the health department toward securing favorable action from parents of their defective pupils.

The janitor's job has been recognized as an important one and raised to the place it deserves. Aside from his assistance to the public health program by maintaining proper lighting, satisfactory heating and demonstration to the pupils of ever better standards of cleanliness and sanitation, the janitor can be a big loss or saving to the school board in the way of handling coal, keeping up repairs and the care of the furnaces and pumps. As a result of this score card "summer session" has been instituted where for two days all janitors must attend summer school for instruction in their duties, in plumbing, firing, care of pumps and furnaces as well as demonstration of our standards of cleanliness.

This method of inspection and scoring as a basis for school and community competition is undoubtedly an important step toward an ideal coöperation of our departments of health and education. Mutual assistance is understood. The health department is lending its influence to some matters that may not be strictly public health; but the department of education throws in the weight of its recognition in its teaching staff of health training and disease prevention as an important quality of teaching efficiency. This secures the whole teaching force as active allies of public health.

A greater return is promised for the combined county expenditures for

health and education. Not only will the percentage of waste incurred by indifference to the conservation of school property be cut down, but economic loss due to the class-room drag of physically deficient children will be lightened. Working together the forces back of public education and public health can raise the standard of the material given our teachers to work with; and can create a public that will know the value of community health and preventive medicine.—*The New Bernian*.

FOOD HABITS OF SCHOOL CHILDREN

Correct food habits are just as necessary to the health of school children as studious mental habits are toward satisfactory progress in school work. The child should be prepared for school each morning in time to sit down to an adequate breakfast, which should be eaten without rush or hurry. A carefully prepared lunch should be eaten shortly after the larger half of the school work for the day is completed. Mustard sandwiches, all day suckers, sweetened popcorn, hot dogs, and all such trash should be scrupulously kept away from school children. Preference should be given to milk, bread and butter, and fruit.

MILK—THE 100% FOOD

"Every boy and girl who would like to develop the best they have in them should drink a great deal of milk. It is a 100 per cent food, that is to say, it contains all the elements necessary for the nourishment and building up of the body. This does not mean that a boy or a girl should use a milk diet entirely. That would be a mistake, because the body thrives best on a balanced diet. But it is important that every boy and girl should drink freely of milk because of its holding food values."—Prof. Stagg, Director of Department of Physical Culture and Athletics at the University of Chicago. He has been coach of the Football team for 32 years and coach of Track and Field Athletics for 28.

THE BUSINESS OF HEALTH CONSERVATION

By L. A. RISER, M.D.

Director, Health Conservation Pilot Life Insurance Company

Health Conservation is a business proposition. It is a business proposition with an insurance company. It *should* be a business proposition with the policy holder. It *will* be a business proposition with every individual when he is taught the importance of conserving health.

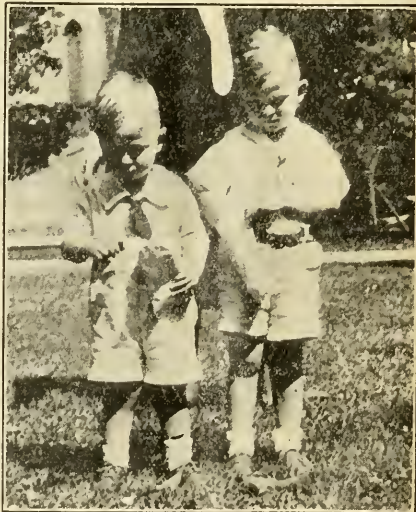
The Pilot Life Insurance Company claims the honor of being the first insurance company in America to offer free periodic physical examinations to its policy holders. This examination is complete including an examination of urine. Many companies have now adopted this policy. The motive of the insurance company might be considered both mercenary and altruistic. If it contributes to a cause which tends to lengthen the life of the policy holder it also helps to lengthen the life span of the entire population. Each year added to the life of a policy holder adds dollars and cents to the resources of the company and at the same time gives the policy holder something far more valuable—a year of life.

In 1913 our health conservation work began with the periodic physical examination. This has been continued up to the present time. The policy holders are notified of the time and place and a physician goes out from the home office to give the examinations. If an impairment is found the applicant is referred to his family physician, his dentist or a specialist as the case may require. We do not designate any given specialist. If we are asked to do this we suggest that the family physician be consulted. We keep a record of our cases and follow them up with a letter a few months later. As a rule our policy holders are glad to act on a suggestion but occasionally they need a reminder.

The educational side of our program has an especial appeal to us. Having been actively engaged in public health work for so many years we know the great need for appealing, concise litera-

ture on subjects which deal with impairments most frequently found. We are trying to be helpful to all existing public health agencies and are co-operating with them in every possible way. We are offering them our literature for distribution and have also offered to get out literature on any special subject to fit their individual needs.

To the Health Conservation Department the life and health of the individual means more than the financial gain to the company. Our idea of the work is entirely altruistic. Fortunately our company recognizes our ideals and takes the broadest possible attitude toward the work of this department. It has been agreed that any physical impairment which we might find in our



FEEDING THE SQUIRRELS IN CAPITOL SQUARE

A pastime enjoyed by visiting children from all over North Carolina. When these boys come back to the Legislature about 25 years from now and run into too much trouble about feeding the State employees, they can go over to the State Library and look up this picture and weep.

physical examination may in no way be used to influence the standing of the insurance policy. This is as it should be. If the company took any other attitude the work would be worse than a failure. It would destroy the confidence of the policy holder and would consequently the honor of being the first inpany.

Some policy holders do not take the examination, fearing that the company is using the examiner somewhat as a spy. We are doing all in our power to disabuse their minds along this line. That a higher percentage of policy holders each year are taking advantage of these examinations shows that we are meeting with success.

In cases of Non-Medical Insurance it is all the more important that the policy holder shall have the advantage of the periodic examination in order that any existing defect be discovered in the early and curative stage.

The periodic physical examination is the most important measure which has been fostered by the American Medical

Association in the past decade. State Medical Associations are now sponsoring the idea of periodic examinations. The National Tuberculosis Association which originally began the chest examination as a means of discovering tuberculosis is now sponsoring the physical examination as a means of discovering early stages of heart disease also. Practically all the higher institutions of learning insist on a physical examination as an entrance requirement. Many corporations require a physical examination by their own physician in selecting employees.

That Life Insurance Companies have tried and proved that health conservation work is economically sound and profitable should do much to convince both large and small corporations that health conservation of employees is a profitable business.

With all shoulders to the wheel we can hope for a life expectancy in the next generation far in excess of what we of the present generation may look forward to.

INTERNATIONAL RABIES CONFERENCE

By C. A. SHORE, M.D.

Director State Laboratory of Hygiene

In the week beginning April 25th there was held in Paris an International Rabies Conference, called by the Health Section of the League of Nations. Representatives from twenty-four countries were present and the conference was held in the library of Pasteur's house.

Six full days were given to discussion and conference, and for convenience the subject was divided into four subheads as follows:

1. The nature of the rabies virus.
2. Discussion of methods of treatment.

3. "Accidents" of treatment (in particular paralyzes).

4. Vaccination of animals.

1. It has been admitted for a long time that the presence of Negri bodies is diagnostic of rabies, but the real nature of these bodies is still undetermined. Drs. Levaditi and Manuelian

of the Pasteur Institute, both showed to the conference a series of microscopic preparations made independently which seemed to demonstrate that the Negri bodies were Protozoa and that they went through a process of division somewhat analogous to that of the malaria organism, but the conference preferred to leave the question for further and complete confirmation.

2. The conference was unanimous regarding the efficiency of the original dried-cord method of preparation of the vaccine and also of the method of glycerinization of this preparation. It also declared that the vaccine may safely be treated with carbolic acid or ether, with satisfactory results, and that such vaccine is preferable in tropical countries.

3. The most interesting of the discussions was perhaps that concerning the etiology of the paralytic symptoms

which occur in rare cases during treatment, but it was found that the ultimate cause of these symptoms was still unknown. It is found that they are less frequent when glycerinated or carbolized vaccines are used. (In N. C. glycerinated vaccine is used.)

The desirability of autopsy and study of the brain of every human case who dies during treatment, or shortly thereafter, was strongly urged. It is believed that it is only by the study of such brains that the cause of paralytic symptoms can be determined.

The importance of a uniform method in preparing statistics was found to be essential for a final evaluation of methods. In accordance therewith, the doctors of this State will, in the future, be asked for more complete information about their patients who take the preventive vaccine.

4. The conference recommended that the study of the vaccination of animals, especially dogs, be continued, but did not think that changes in legislation, based on the vaccination of dogs, should be encouraged at present, and the conference specifically stated that "dogs bitten by animals known to be rabid shall be destroyed even if previously vaccinated." It is interesting that this statement is in exact accordance with a law which has long been in force in this State, but which, unfortunately is not always observed.

The conference finally concluded that "the only measures that will completely eradicate rabies are, the restriction of the liberty of the dog, unless muzzled, to the premises of the owner, and the destruction of the ownerless dog, and recommends that these measures be embodied in the legislation of the various countries."

HELPING PROTECT THE FLOOD SUFFERERS

Since the advent of the new century people now living, and who are comparatively young, have been able to note more upsetting revolutionary changes in the process of civilization than at any other period of a thousand years in the world's history. Many of us are familiar with discoveries and inventions and advances in the realm of medical science and in the field of public health, all of which are tending to considerable extension of the span of life for the average individual. The invention and the widespread use of the automobile, the radio, the aeroplane, and other everyday, commonplace events of mighty processes are familiar to everybody. It may be said that the average newspaper reader in these days picks up his morning paper with the feeling that the unexpected and impossible has almost come to be regarded as the normal. The world-wide devastating effects of the late war, with its ten million men destroyed as a direct effect of the clashing forces in the fighting area alone, has caused people to look with complacency since then on many calamities that a quarter of a century ago would have made a deep and terrifying impression on people

all over the world. The recent terrible flood in the Mississippi Valley, on account of its magnitude and the unprecedented destruction of property and the danger to helpless women and children in such a large area of the country, has been one of the events, however, which has made a very deep impression. We do not recall any event in this country which has caused the Surgeon General of the United States Public Health Service to call on all the State health departments in the Union for assistance in preventing a scourge of pestilential disease following the wake of the flood waters.

Surgeon General Cumming sent out a call to all the State health officers for voluntary forces to aid in the work. The North Carolina Board of Health along with other boards in this section, responded as liberally as possible.

In response to the call from Surgeon General Cumming, acting in cooperation with the American Red Cross, two physicians of the North Carolina State Board of Health personnel and four sanitary inspectors from the engineering department of the State Board of Health were dis-

patched to the flood area. In addition, the health officer of Pamlico County, Dr. D. A. Dees, and the health officer of Rowan County, Dr. C. W. Armstrong, together with Mr. Quint E. Smith, sanitary engineer of Concord, and Mr. W. C. Stallings, sanitary inspector of Guilford County, volunteered their services and reported for duty in the flood area along with the personnel of the State Board of Health aforementioned. It ought to be of interest to the friends of the State Board of Health, and especially to the friends and relatives of these officials, to know something about how their services were appraised by the authorities in the flood district. Therefore we take pleasure in quoting below some letters received from health officers in Mississippi, Arkansas, and Louisiana.

Dr. W. A. D. James, the county health officer at Belzoni, Mississippi, wrote to the North Carolina State Health Officer, under date of June 17, the following letter concerning the work of Messrs. Floyd and Stallings:

"I want to express our gratitude to you for the valuable service that your department has rendered us during our flood emergency.

"It has been our good fortune to have detailed to us two of your sanitary inspectors, Mr. John E. Floyd, of Raleigh, and Mr. W. C. Stallings, of Greensboro. I know that I have never known two better men. They certainly gave us some worth-while service. They are industrious, interested in their work, and know sanitation, how to deliver it and get results.

"Again thanking you for this valuable service that you have made possible for us, I am,

"Yours very truly,

"W. A. D. JAMES, M.D."

On June 21 the Exchange Club of Cleveland, Mississippi, passed the following resolutions with reference to the work of Mr. B. F. Rowland:

"WHEREAS, the State Board of Health of North Carolina has been so kind and generous to lend to Bolivar County the services of Mr. B. F. Rowland, Sanitary Inspector, during the recent overflow and calamity affecting our community; and,

"WHEREAS, Mr. Rowland is a high-class gentleman in every respect, and made many friends for the Health Department of our State, as well as our sister State, North Carolina:

"BE IT RESOLVED, that the Cleveland Exchange Club of Cleveland, Miss., extend to the State Board of Health in behalf of the people of Bolivar County their sincere and grateful thanks for the splendid services rendered by the said B. F. Rowland, Sanitary Inspector, and to assure them we shall always remember most gratefully and kindly the spirit that actuated the said State Board of Health in coming to us in our time of need:

"BE IT FURTHER RESOLVED, that a copy of this resolution be spread upon the minutes of the Exchange Club and a copy sent to the State Board of Health at Raleigh, N. C., and a copy furnished to the press of the county.

"Done this the 21st day of June, 1927.

"R. E. JACKSON, *President*.

"GEO. H. WEBB, *Secretary*."

On June 21 the following letter was received from Dr. Hardie R. Hays, A. A. Surgeon, U. S. P. H. S., at Indianola, Mississippi, in commendation of the work of Mr. M. M. Melvin:

"In behalf of the people in the inundated section of Sunflower County, Mississippi, I wish to express appreciation of the splendid services of Mr. M. M. Melvin, who was sent to this department by your State Board of Health.

"Mr. Melvin represented your State in a most complimentary way, demonstrating to all the high degree of efficiency which characterizes your splendid Board of Health.

"The people of this county are at one in their conviction that never has a more rapid, worth-while piece of work been put over than was done under the direction of Mr. Melvin.

"We thank you for your liberality in sending him, and want you to know that the people of Mississippi truly appreciate your State sending their very best to us.

"With very best wishes, I beg to remain,

"Sincerely yours,

"HARDIE R. HAYS, M.D."

Under date of June 1 Dr. Felix J. Underwood, State Health Officer of Mississippi, wrote to Dr. Laughinghouse as follows:

"Words fail me in expressing to you our appreciation of the splendid assistance rendered through your well trained sanitary inspectors. I doubt if there is a State in the Union that has sanitary men who equal yours.

"Very truly yours,

"FELIX J. UNDERWOOD, M.D."

Under date of June 4 Dr. C. W. Garrison, State Health Officer of Arkansas, wrote the following letter with reference to Drs. Taylor and Carley, and Sanitary Engineer Weir:

"Arkansas is indeed fortunate in your selection of men to serve us. Doctors H. A. Taylor and Paul S. Carley and Sanitary Engineer W. H. Weir have been with us for some time. Each of them has rendered a service that has been invaluable, and I hardly know what might have come as a result of the flood in several communities had they not been there to organize the work and combat the diseases that usually follow in the wake of disaster.

"Dr. Dees and Mr. Quint Smith, while not directly from your department, have come I know largely through your solicitation. My contact with these men assures me that the communities to which they are assigned will be assured of protection.

"I congratulate you on having such a wonderful staff of workers, and I feel particularly favored in being the recipient of their services."

Dr. C. W. Armstrong was assigned to duty in northeastern Louisiana, directing a force of twenty-five workers, including nurses, engineers, and sanitary inspectors. Dr. Armstrong's work covered a total of forty-six towns and eleven parishes. In his report to the Louisiana State Board of Health at the conclusion of the work, Dr. Armstrong says:

"There has at all times been perfect harmony and the most cordial cooperation between all members of the unit. The men have worked untiringly with never a thought of complaint. The permanent employees of the Louisiana State Board of Health

who were absorbed into the unit have given us the finest possible cooperation, and have shown us every courtesy. We cannot speak too highly of your own Louisiana men who have been with us in this section. Any State should feel itself fortunate in having the services of these men."

In conclusion the class of service rendered by these men is indicated in the fact that after the subsidence of the acute dangers, while the flood was at its crest, the International Health Board deemed it necessary to assist financially and otherwise in the rehabilitation work of the public health departments in the area involved. The aforementioned board agrees with Secretary Herbert Hoover, who himself spent some time in the flood district, that intensive sanitary work will be necessary over a period of at least eighteen months before the rehabilitated population can be restored to safe and normal community life. To assist in making such work effective on a systematic scale the International Health Board took the lead in establishing a school of sanitary inspectors to take intensive training for a short while before being dispatched to individual districts throughout the entire flood area. As chief instructor of this school of sanitary inspectors the International Health Board requested the services of Mr. John A. McLeod, one of the chief inspectors of the North Carolina State Board of Health engineering department. Mr. McLeod is now in charge of the work and is expected to remain for a total of three or four months, until this feature of the work is completed.

BANG!

My Bonnie looked into the gas tank,
My Bonnie lit matches to see
If there was any gas in the gas tank—
Oh! bring back my Bonnie to me.

—*Boy's Life.*

The most valuable possession in the world is youth, but not one per cent of the people in each generation ever appreciate that fact until it is too late.

THE PREVALENCE OF PELLAGRA

Prevention of the Disease Largely a Problem in Domestic Economy

By EDWARD J. WOOD, M.D., D.T.M., (London)

Wilmington, N. C.

In April of this year the HEALTH BULLETIN called the attention of its readers to the importance of the problem of pellagra. Since that publication the number of cases in North Carolina has been found to be much greater than in a number of years and from all quarters physicians are asking for information regarding the newer knowledge not only of its treatment, but also and much more important, of its prevention.

The following simple table of the number of deaths in this State from pellagra speaks for itself.

<i>Year</i>	<i>Number of deaths from pellagra</i>
1922.....	302
1923.....	224
1924.....	272
1925.....	398
1926.....	458

Indications point to the probability of a much more decided increase for the year 1927 than any increase in recent years. Physicians who have not encountered cases in five or more years are seeing not an isolated case but numerous cases. In my own practice I have seen more cases in 1927 already than in any three years since 1917. These depressing facts would not now be so bluntly stated were it not that pellagra is one of the most certainly and easily prevented diseases. From 1907 until 1915 the efforts of physicians in its control were of small account but with the new conception of the part played by food as set forth by Dr. Joseph Goldberger of the United States Public Health Service the whole problem was changed. Prior to that time pellagra was probably the most awful scourge the physicians of the South had ever encountered. One hears about the yellow fever of the past and how it wiped out hundreds especially in and about Wilmington, but awful as it was

there was a better chance for recovery from it than from pellagra to say nothing of the protracted suffering and loathsomeness the latter caused with a large incidence of insanity following in its wake. In those days prior to 1917 pellagra was an acute disease. Before its appearance in this country pellagra which was known chiefly in Italy and Roumania was a chronic disease always. Because it appeared among us as a very acute disease running a course oftentimes as short as typhoid fever many conservative physicians would not accept the diagnosis. This very fact caused a delay of two or three years in the general recognition of the disease. It was unique in medicine for acute pellagra to occur and it was not surprising that some of the most eminent of our great consultants in the eastern medical centers as Baltimore refused to make the diagnosis. Gradually the disease became transformed into first a subacute process and finally into a chronic process so that today it differs little from the Italian type with only an occasional acute malignant case.

With this decrease in the acuteness of the process there has been a decrease in the death rate. Oftentimes in the past the death rate in some groups of cases was well over fifty per cent, while today I do not think it will exceed five or ten per cent, and there is no occasion for any deaths except in that rare acute malignant form which happily is becoming extinct.

It will be noted that during the past two years there has been a notable increase in the number of deaths, therefore in the number of cases. The explanation of this increase is a matter of vast importance. Some observers with good reason attribute the increase to the cotton situation. The farmer has made less and has eaten less variety of food and the cotton mill operative also

has earned less and has therefore eaten less. Evidently our margin of safety is too closely drawn and any such situation in an enlightened state should never be countenanced. It is hoped that a method of actually decreasing the cost of foods and increasing protection against pellagra will be developed before this article is completed.

Recognition of the Disease

In spite of its striking clinical manifestations pellagra is sometimes being overlooked or confused with other conditions. One reason for this is the fact that the symptoms do not appear always in the same sequence. Occasionally a case presents itself with a history of diarrhoea and sometimes of diarrhoea and sore mouth occurring every spring for several years and yet no skin eruption. Years ago I assumed the attitude that the disease should not be diagnosed without the skin eruption except when a definite history of its past occurrence could be secured. In the light of what is to follow let me state here that in every such case a careful survey of the patient's diet should be made and corrected regardless of the possibility of pellagra. In so doing much precious time will be saved for many of those destined to present the full picture at a later time. In many instances the skin eruption is the first and, indeed, in even more cases the only sign of sickness. I have found great difficulty in persuading some of these patients that the trouble is not simple sunburn. Enough have held out in their own opinion and later developed the distressing signs of the disease to prove the value of this first sign to an intelligent and coöperative patient. In such instances a complete eradication with the certainty of no recurrence can be assured and time and experience with hundreds of cases justify this opinion. The eruption may be so trivial as to escape detection. I have seen merely a tiny point at the two angles of the mouth at times. In little children it frequently occurs on the legs or the tops of the feet and may never be detected. Many such cases were detected in a survey made some years ago in Wilmington as well as

elsewhere. It is true that the uncovered portions are far oftener attacked, but this does not exclude the eruption appearing on any part of the body surface, both covered as well as uncovered. I have seen it appear along the spine, about the anus and the vagina, on the scrotum, on the prominences of the pelvic bones, about the ankles, on the back below the shoulder blades, behind the knees, on the soles of the feet and the palms of the hands, on the skin of the thighs, on every portion of the face and the neck, but in every instance the process has been symmetrical, that is, it has always occurred on the two halves of the body in exactly the same position, shape and size. If it appears on one-half before another a pattern can be made of the first side affected and with indelible ink traced out on the other half with the full assurance that very soon (usually within a few days) the second will conform with perfect exactness to the first. There are few exceptions to this rule, and it supplies the best single diagnostic point. Usually there is a good deal of pigmentation of the affected skin. At the borders especially this is marked, and will persist for weeks after healing. The amount and degree of pigmentation varies in different types of people being less in the blond and more in the brunette, the mulatto and the negro. The action of the sun plays a part in the degree of pigmentation also. In Edinburgh where there is little sun, and that never bright, I have seen the typical disease without a trace of pigmentation which led the physician in charge to question the diagnosis. The sun does not cause the eruption of pellagra, for if it did a patient in bed could not develop skin lesions of the covered portions, but it does play a part comparable to its action on the sensitive photographer's plate.

In an analysis of two hundred cases of pellagra seen in private practice I found that in 183 (91.5%) cases the backs of the hands were affected, though in many of these there were other locations also. In 80 (40%) the forearms were affected; in 57 (28.5%) the neck; in 27 (13.5%) the face; in 26 (13%) in the feet; in 8 (4%) the

vagina; in 8 (4%) the covered portions; in 1 (½%) the scrotum. These figures are far too low for the location of the skin eruption about the vagina. In recent times this location has been sought for and the number of instances of its occurrence when not suspected has been extraordinary. In a series of one hundred cases published by me in 1917 in the *Archives of Diagnosis* the backs of the hands and forearms together were affected in 97; in 39 the hands alone; in 10 the hands and the forearm; in 5 the forearms alone; in 2 the face and the neck alone; in 1 the tops of the feet alone; in 16 the feet in combination with other parts; in 6 covered portions; in 8 the face. These two series making three hundred cases in all, justify the conclusions that the backs of the hands should be examined first, but more important still, that the examination should not end there.

Diarrhœa is an important symptom. In the series of two hundred cases it occurred in 113, and the series of one hundred it occurred in 77. It varies from a slight increase in frequency lasting only a few days, justifying our alertness about the story so often heard of 'spring diarrhœa' to a violent diarrhœa which may be attended with loss of blood. The violence of the diarrhœa is the best single indicator of the gravity of the disease. My fatal cases almost invariably have suffered from an uncontrollable looseness of the bowels. Sore mouth or stomatitis occurred in 113 in the series of two hundred and in 73 in the series of one hundred. It varies from a slight redness of the tip of the tongue to an intense redness of the whole mouth. Frequently it is so intense that the patient whose suffering beggars description is unable to swallow even water or fruit juice, thus presenting one of the great dangers to life. In some cases we recently have appreciated the importance of a mouth complication in Vincent's angina which can be successfully treated, thereby adding many points in the patient's favor both for lessened suffering and length of life.

The nervous system is frequently involved in pellagra. One of the com-

monest lesions is multiple neuritis resulting in pain especially in the hands and feet, disturbance of sensation and the physician will find loss of the tendon reflexes. Another frequent lesion not generally recognized is that of so-called subacute combined degeneration of the spinal cord, which was ably demonstrated by Kinnier Wilson in London several years ago. This is important because many physicians think that this particular spinal cord affection can only occur in pernicious anemia. The number of victims of pellagra developing mental symptoms varies greatly from year to year depending on the type of the disease prevailing. Certainly much fewer cases occur now than formerly. I have seen only one case of dementia of pellagrous origin in three years. It is important for the victim to remember that insanity is a possibility, and to persist in a correct manner of life in order to avoid it. In the series of two hundred cases there were 12 cases requiring mental care.

The increased occurrence of pellagra among women is notable. In the series of two hundred cases 187 were females and 13 males. Space does not permit a discussion of the various factors which may explain this great difference. In children the two sexes are equally affected. Age plays a small part. My youngest was 19 months and the oldest 78 years. In the series of one hundred cases in the second decade there were 11 cases; in the third 24 cases; in the fourth 28 cases; in the fifth 28 cases; in the sixth 17 cases; in the seventh 7 cases; in the eighth 4 cases. In children the rule is for the disease to be milder and to respond promptly to the food fault correction.

The Cause of Pellagra

In December, 1915, Dr. Joseph Goldberger, of the United States Public Health Service visited Wilmington in his study of Pellagra. At the time I was hostile to his theory that pellagra was a food disease. The evidences of an infectious nature were so many that it seemed impossible to me to find any other reasonable explanation. I spent the day with Dr. Goldberger,

and was so impressed with his views that I agreed to treat the next hundred cases from his viewpoint. Since that time many more than that hundred cases have passed through my hands, but I have never departed from the general idea implanted by Dr. Goldberger that pellagra was due to a nutritional lack, a deficit in the nitrogenous or proteid part of the diet. I learned then to analyze the diet of every individual, and I cannot recall an instance since in which a gross food fault was lacking. As a rule the fault is so obvious that it requires only a moment to detect it. Sometimes the patient is not perfectly frank, and I have been beguiled by the bounteousness of the particular table until I learned that it was necessary to know not what was set before the victim, but what was actually eaten. Very soon the cases began to fall in the following groups: (1) well conditioned people who were "cranky" about their food, eating only one or two things, as a certain lady whose whole diet was biscuit and coffee, and whose wealth and gentility proved no proof against the disease. (a) Well conditioned aged people living alone, unstimulated by a good appetite, eating the foods requiring little preparation as out of a can. (3) People with such conditions as high blood pressure who have dieted themselves into pellagra. (4) The ignorant who have not learned the dangers of a one-sided diet of highly milled grain with the use of alkaline chemical raising agents and a lack of such food as milk and eggs. (5) The very poor living on a one-sided diet through necessity. (6) People affected with such diseases as hook-worm, tuberculosis, diabetes and pregnant women whose diets under normal conditions might have carried them by the danger, but who with a lowered resistance fall easy victims. It was notable that pellagra, tuberculosis and diabetes formed a very congenial company, but made a combination difficult to control. It is likely that with insulin this problem will be simplified.

One of the most important publications I ever read was that of P. A. Nightingale in Rhodesia, who was physician to a British jail. The pris-

oners were fed a small cereal of the maize family called *ropoko*, which was ground by hand in the jail and the whole grain eaten. When the crop failed and he was forced to see his patients eat "mealie meal," which corresponds to our highly milled commercial corn meal there developed at once a malignant type of pellagra. With rare discrimination Nightingale at once suspected the grain, and went outside and bought more *ropoko* with an instant cessation of the disease which, in his own language, was "immediate and magical." Profiting by this lesson I sought out a modern grist mill and learned at once that the law permits the commercial miller to "degerminate" the grains of corn before grinding. This degermination consists in the removal of the germ or heart of the grain which lies at the end attached to the cob and which is about as hard as a raw peanut, while the rest of the grain (the endosperm) is as hard as soft stone if it is a good quality. This part removed is sold in this section as "corn chops," and has a fine reputation as a milk-maker, which is only natural. I then had chemical studies made of the various parts of the grain and the grain under different types of milling. It had been shown in the Philippines in the study of beriberi that the cortex (outermost layers) of rice contained that curious substance called vitamine which could not be chemically analyzed, but occurred in the portions where phosphoric acid was most abundant. The feeding of the rice polish had cured beriberi, and it occurred to me that by an analogy we might get help in the pellagra problem. The following table published in the *Transactions of the Association of American Physicians* for 1916 will be helpful:

Phosphoric Acid ($P_2 O_5$) Percentage	
Corn Chops	1.15
Water-ground meal (N. C.)	0.78
Whole meal, steam milled (Va.) ..	0.60
Highly milled meal (Ohio)	0.29
Steam-mill meal (N. C.)	0.58
Wheat middlings (offal of mill) ..	0.98
Whole-wheat flour	0.50
Average wheat flour (bought in Wilmington)	0.14

It was thought that if pellagra was due to a lack of this essential food factor (vitamine) that supplying the part removed in the milling would effect the cure. This was experimented with on pigeons and chickens extensively, and the results justified such a conclusion. It was then tried on the patients. The results were fully as "immediate and magical" as Nightingale had obtained in South Africa. This led to an amateur epidemiological survey of the disease with the result that I was able to demonstrate in a community far removed from the railroad, without a highway and with one merchant supplying all of the food consumed that when the ancient water-power grist mill was abandoned and the community began the use of "store meal," which was the highly milled meal with germ removed, pellagra made its first appearance. Then an effort was made to find pellagra in the fastnesses of our mountains where there are no highways, no railways and no modern merchants. These people take their bushel of meal to the old grist mill on the mule's back, and it is ground with no removals and promptly consumed. While the diet of these people was found of the most meager sort, and with only two or three articles of food, they never have pellagra. Then the thought occurred to me that the Confederate soldier, with all his privation, even to actual starvation, never had pellagra. His diet was not varied nor were there many different dishes. Frequently it was a pan of corn meal mush. Modern civilization had not the deprived man of this essential thing, and so pellagra was unknown in the Confederate Army. What a lesson to be learned! What an advantage in the ways of our great grandparents who cooked in the ashes without chemicals and with freshly ground corn from which nothing had been removed!

Early in these investigations the work of Voegtlin, of the United States Public Health Service, was brought into play in a practical way. Voegtlin showed that alkalis have a destructive action on the vitamine of grain (water-soluble B vitamine). When soda is added to meal or flour and

then cooked the bicarbonate gives off carbon dioxide which does the raising and the very alkaline carbonate of soda is left behind. Unless enough buttermilk has been used to exactly neutralize this alkali the end result is destructive to this essential vitamine. Such a fault goes unnoticed if there is a suitable offset with an otherwise well-balanced diet. For this reason many people having suffered nothing from such a practice cannot be convinced of its harmfulness. When such a practice is followed by people with no other offset than a bit of fat meat, the result is inevitable. A study of baking powders on the local market showed that for the most part they were made up of acid sodium phosphate and bicarbonate of soda. The end result after cooking must of necessity be alkaline, otherwise the bread would be sour and unpalatable. Only the finest chemical adjustment can bring about an exact balance of these two elements, and it is questionable how often this is attained. It is also questionable how much of the vitamine is destroyed by a slight degree of alkalinity. At best it is well for us to regard the matter in the light of "playing with fire."

Self-raising flour then came in for merited consideration. To do justice to this one of the greatest and best mills of the United States was visited. It was found that only very white patent flour was used in this product. The flour itself was deficient because it had come from the center of the grain without any of the cortical parts which contain the vitamine; it had been bleached, and then in the combination with the acid sodium phosphate and sodium bicarbonate which made up the "self-raising" element there seemed small chance for any vitamine to be left.

In an analysis of all the cases I have seen since 1915 the predominating factor in a diet regarded as defective has been self-raising flour which is known as "lazy man's flour." It is universally used in those households where pellagra has occurred. Many households use it and escape, but this escape is more good luck than good judgment, and always the varied dietary has supplied an offset as in milk

and eggs. Self-raising biscuits are easily prepared, present a most attractive appearance, and are especially palatable to all classes. This biscuit is comparatively soft, and therefore pleasing to the aged and those with the usual dental defects as well as to the children. After eating such biscuit I find great difficulty in persuading people to eat "beaten biscuit," or Maryland bisenit, which contains no chemical raising agent, but is made sufficiently light or porous by kneading or beating. Such bread has been used in our older eastern settlements for over a century, and can be made by a little cooking skill far more delicious than any commercially mixed product. In our cotton mill settlements the less time and labor consumed in the preparation of the family food, it has been pointed out, the larger will be the week's pay envelope. One member of the family, usually the one whose hourly earnings are smallest, is withdrawn for an hour, or for as short a time as possible, and sent ahead to prepare the meal. To make a pan of biscuits with self-raising flour is the easiest and quickest procedure. Added to this the vegetables must be cooked quickly, and yet be tender enough to be eaten so cooking soda is added to the boiling pot, thereby destroying the precious vitamine which is present in large amount in all leaf food. So the family sits down to a satisfying meal of hot, beautifully brown biscuit "as light as a feather," calling for no real mastication, but slipping down easily even when the old people are toothless; and to this are added a dish of tenderly cooked collards or cabbage and a bit of fat meat. Each of these dishes is deficient, indeed totally so from the vitamine point of view, and yet the children and young people can grow fat on it. The large cup of strong coffee would be a real advantage if a reasonable amount of cream or milk were taken with it, but usually only sugar is added. People of this type in North Carolina in many instances have a perfect disgust for milk, cream and butter, and in spite of our pleadings they will not abandon the prejudice or the actual dislike. With the above mentioned diet no known harm

would occur (certainly no pellagra) if each member of the household would eat butter at each meal and drink a pint of milk a day. One wise physician recently writing about the great increase of pellagra in his section, said that whenever he found a cow in the back lot he did not find pellagra. No intricate knowledge of the various views of how pellagra is a deficiency condition would be needed if all our people would drink milk and eat butter. Unfortunately those people whom we have come to designate the pellagra class will not or cannot be induced to invest in a cow, so if the problem is to be practically met they must be safeguarded in another way.

In a study of the milling of flour in one of America's greatest mills it was found that in each run of the mill seventeen flours of different grade were produced. It will be recalled that the vitamine which I regard as vital in the protection against pellagra (water-soluble B) is found in the cortex of the grain. The patent portion occupies the center of the grain, and therefore is farthest removed from the vitamine source, and yet this is the flour our housekeepers would insist on, because of its pure whiteness. Nearer the surface of the grain the flours have a yellowish tinge which the uninformed object to, not knowing that in the very yellow is the most vitally precious portion of the whole range of foods. Dr. Wiley has added to this objection that of the process of bleaching, which I have yet to study. It is obvious that we need the grain as Nature provides it without any removal of any sort, that in this respect the refinements of modern milling, like so many modern innovations, are actually taking toll of the life and health of our people, that the cheaper and less attractively appearing is our flour the safer we are, that whole wheat flour has tremendous advantages over any other. All of this virtue found in the surface portions of the grain can be lost, however, by the use of chemical raising agents. One of the greatest authorities on food and nutrition intimates to me in a personal communication that one of the greatest, if not the greatest, source of physical handicap at this time in the South is

the use of chemical-raising agents. It is important to note that in other sections this practice has not become universal, and any one interested might do well to study the vital statistics having this point in mind. The unpopularity of yeast as a raising agent is deplorable. The departure from the primitive cooking of colonial days when raising agents were unknown has been a real misfortune.

Treatment of Pellagra

The best treatment of pellagra is its prevention. Certainly when one member of a family with pellagra calls on the physician, he is untrue to his high calling if he does not point out the defect, not only in the diet of the patient, but of the whole family. Unless the patient is one of that unfortunate class best known as "food cranks," the whole family is exposed to the same danger, and the analysis of the diet must be for all who eat the food under suspicion so the remedy may be generally applied. Every detail of every meal must be investigated and exact replies demanded. As before stated, patients will practice more deception about this one thing than anything else, though to do so militates against their best interest, and at heart they are not deceitful.

Dr. Goldberger has stressed the importance of the proteid side of the diet. If milk and eggs are consumed abundantly flesh food is not important, though young growing people, especially the children from three to ten years, are helped amazingly by underdone beef, preferably in the form of scraped beef. There is too much indiscriminate cutting out of meat food at this time. Doubtless in the past too much meat was eaten, but the fact remains that people who are not vigorous and who are also underweight, are helped by flesh. Meat may be greatly damaged in cooking. In the rural districts beef is usually greatly overcooked. Pork can hardly be overcooked, and the same rule applies to other meats. In isolated sections I have learned not to rely on any form of meat, but to insist on milk and eggs as well as butter and cream when possible. It is generally advised that a

"low flour" be insisted on and, if possible whole wheat flour be used exclusively. A low flour is a cheaper flour of a slightly yellow tinge, which is infinitely better food. If the public demands whole wheat flour and low flour, the merchants will gladly meet it, but it must not be expected that these things will be carried in stock until the demand justifies it. All patients, whether sufferers or not are advised against self-raising flour as well as against pure white flours. Raising is to be accomplished with yeast or by kneading and beating.

Vegetables are vitally important, and the leaf kind are much to be preferred. Again it must be repeated that soda or other chemical must never be added to the cooking vegetables. Fruits, especially the citrus kind, is a great addition, supplying another vitamine which is as important in its place as any other. No patient is so poorly situated that a sufficient amount of some sort of useful fruit cannot be had.

Drugs in pellagra do so little good that it is questionable whether or not it is ever wise to prescribe them. The patient is only too willing to take the medicine and finds in so doing a sense of false security resulting in carelessness about the diet which is the vital part. Recently on the suggestion of Dr. Goldberger I have advised the use of a yeast vitamine tablet,* two of which are given before each meal for a while and then for economy's sake reduced to one. For years I have used corn chops,† which is the germ of corn, as the source of vitamine. This is given in the form of gruel or as mush or may be made into corn pone or hoe cake. Owing to its high percentage of fat, it does not keep well, and should be bought in small amounts freshly milled.

The gravely ill patient with pellagra frequently calls for help when the mouth is so sore that swallowing is well nigh impossible. Added to the

*This preparation is known as Tablets Yeast-Vitamine (Harris), and can be had from the Harris Laboratories, Tuckahoe, N. Y.

†The Boney & Harper Milling Co., in Wilmington makes a nice preparation of corn chops for human consumption under the trade name Corn Hearts. It is hoped that other milling concerns will soon be justified in doing likewise.

sore mouth is a terrific diarrhoea. Consequently an insufficient amount of fluid is swallowed and a great excess of fluid is lost in the loose bowels. The result of this deficiency of body fluids is known as dehydration, and makes one of the emergencies of medicine. Doubtless in the past many cases of pellagra were lost by this complication. With this there is often added grave vomiting. Examination of the urine will show a marked reaction for diacetic acid with ferric chloride indicating an acidosis. The whole condition can be largely controlled by the judicious use of a ten per cent solution of glucose in normal salt solution given intravenously in amounts from 200 cc. to 400 cc. The solution must be kept at a sufficiently high temperature and given very slowly. Sometimes even the Murphy drip speed of administration is desirable. The heart muscle in pellagra is usually gravely damaged in this type of case, and it should be shielded from every possible strain. Sudden death in such cases is by no means unusual. Recently it has been demonstrated that in many of the severely sore mouths the infection known as Vincent's angina plays an important part in its correction by arsphenamine locally in glycerine and intravenously plays an important part in relief of suffering, making the taking of food easier, and thereby reducing the danger to life. The intravenous dose should be very small at the start at least. In this connection it is well to mention the use of arsenical preparations intravenously especially of cacoodylate of soda so much in vogue at this time. My experience is that except for the tonic effect there is nothing to expect from such treatment. There is always the possibility of an arsenical neuritis to be considered, and it is likely that the dose will be greatly increased because no decided result will be obtained, and in the end the drug may become an added source of suffering. We are dealing with a food deficiency, and it seems unwise in the extreme to befog the main issue by giving drugs for a condition which calls for food. In this disease, at least, it is high time for the medical profession to cease giving

drugs to satisfy the family and the patient when he knows full well no good can come therefrom. Far better to take those interested into his confidence and explain that food, and only food in great excess of the part which has been left out will accomplish anything. If the patient and her friends know that only by way of food can recovery come the number of patients coöperating will be greatly increased.

Finally, after a patient has recovered from an attack of pellagra, it should be made perfectly clear that a recurrence in the following spring will be entirely unnecessary, provided the errors of the past are not resumed. Many go back to their evil ways as "a fool returneth to his folly." These are cases who suffer the yearly recurrence gradually growing worse until their mental state necessitates their being committed to a hospital for the insane. In my opinion practically every case of pellagrous insanity at this time is preventable. Further than this it can now be said with all confidence that every case of pellagra is preventable. In the future when the disease occurs it is somebody's fault, and that fault may fall on the teacher whether it be from the medical profession or the social worker or any other informed person who withholds this simple information.

OUT OF THE MOUTHS OF BABES

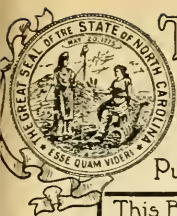
Agnes, aged five, was called in from play to breakfast. When her mother told her to wash her hands and face, she replied, "All right, mama, I'll wash my hands, but I've washed my face once, and I haven't used it any since."

—From *Children, The Magazine for Parents*.

As Betty, aged six, returned from school one afternoon, her mother asked:

"And what did my little girl learn at school today?"

Betty looked surprised, and exclaimed, "Oh, mother, do I have to educate you all over again?"—From *Children, The Magazine for Parents*.



The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

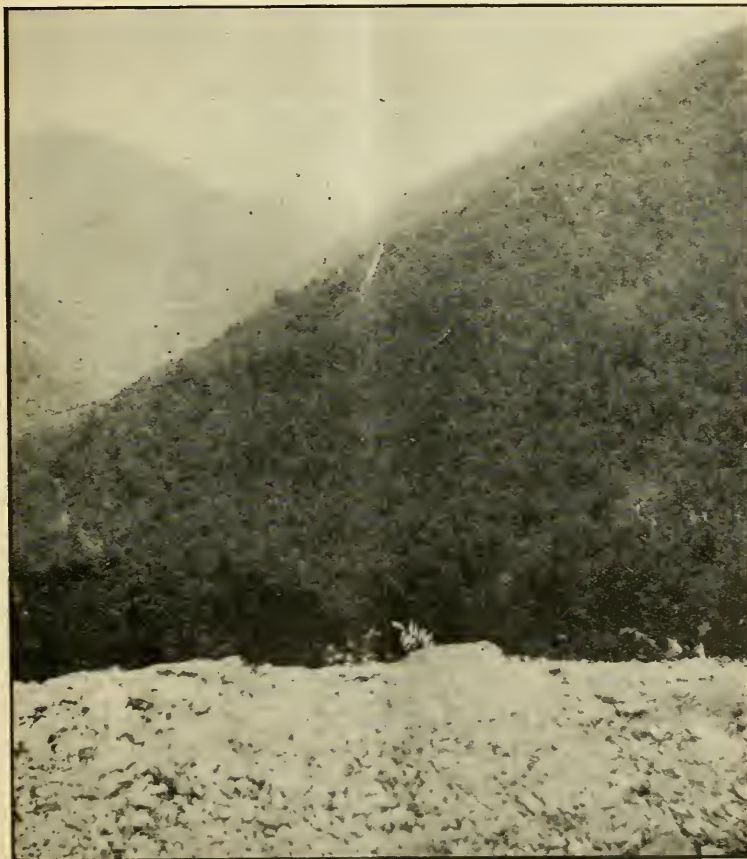
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OCTOBER, 1927

No. 10



*In the Nantahalas, near the western end of North Carolina's
five hundred and seventy mile long Broadway, where*

*"All day long the sunlight seems
As if it lit a land of dreams."*

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
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Care of the Baby	Infantile Paralysis	Teeth
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Diphtheria	Pellagra	Venereal Diseases
Don't Spit Placards	Public Health Laws	Water Supplies
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FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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THE Health Bulletin



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HEALTH EXAMINATIONS*

By A. J. LANZA, M.D.,

Assistant Medical Director Metropolitan Life Insurance Company, New York City

Mr. President: May I express my appreciation at the honor of addressing the Cumberland County Medical Society on the subject of health examinations. It is a pleasure to appear on the same program with the executive officer of the North Carolina Board of Health. All of us who have been active in the field of public health appreciate the achievements of the North Carolina Board, and especially its progress in establishing county health work throughout the State.

Your first speaker, Dr. Burrus, expressed the philosophy of the health examination movement when he said—"Allow the patient to tell his story—learn everything about him." The idea underlying health examinations is one readily appreciated by the lay mind—it does not do violence to any preconceived notions nor tend to arouse the resentment that is still provoked by the various preventive inoculations or vaccinations which medical science has endeavored to popularize. In fact the propaganda on health examinations emanating from official and non-official health agencies has apparently produced a greater response from the laity than from the physicians of the country. One reason is that it appears to be simple and free from the technicalities which confuse in the public mind other health procedures. It is, however, not simple and calls for broad experience and sound judgment and involves a responsibility and a type of service to his

patient that the physician has not in the past—and has not yet—adjusted himself to render.

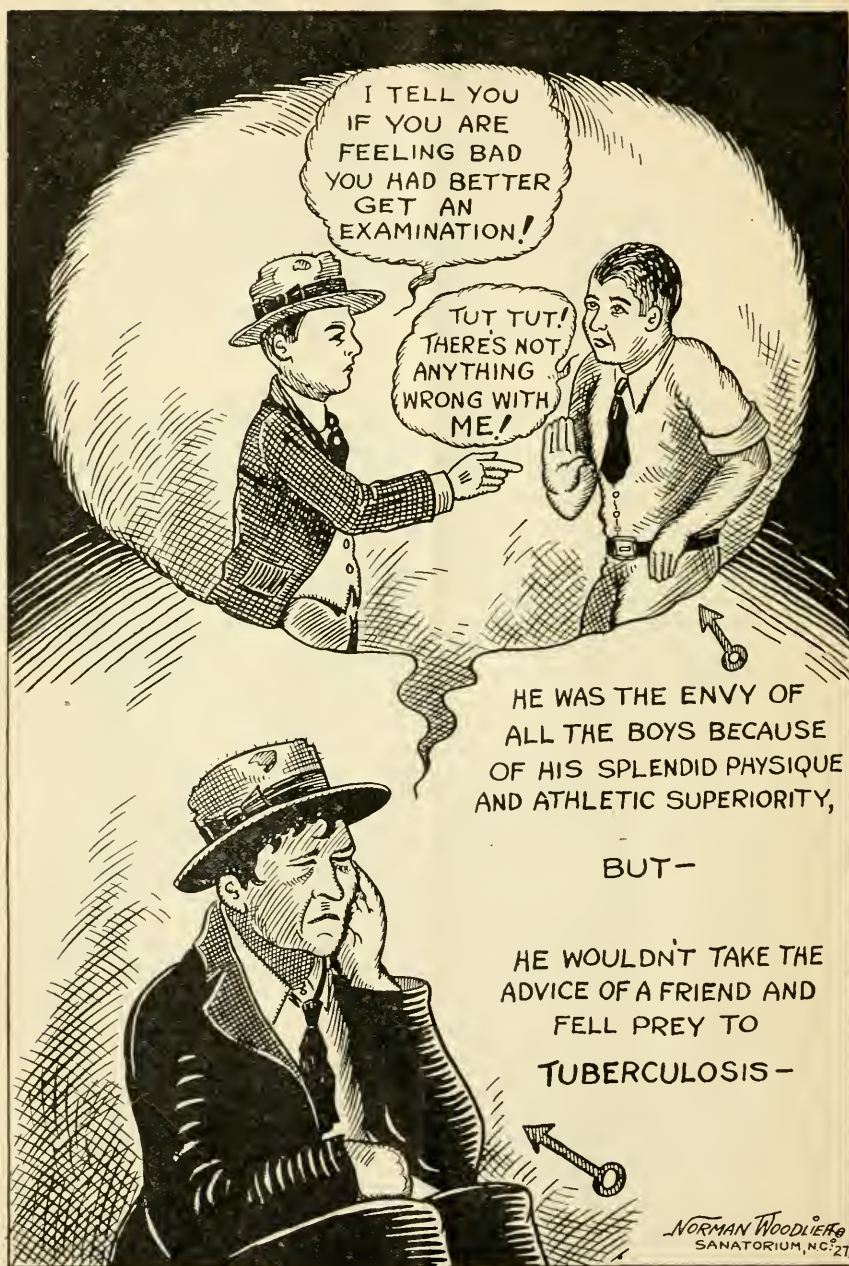
The idea is not new. In 1861 there was published a remarkable book of lectures on "The Germs and Vestiges of Disease" by Dr. Horace Dobell of London. I will take the liberty of reading a quotation from this book.

"I am perfectly convinced, from my own observation and experience in practice, that patients never think of consulting their doctors till these conditions of impaired general health have advanced far enough to have been developed into some form of disease; that thousands and thousands of people, believing themselves to be in health, are nevertheless undergoing these early, occult, and evasive stages of defect in the physiological state; and that such persons may be considered to be in health, not only by themselves, but by any one accustomed to associate with them, even though it be a physician, and that even if they submit to a medical examination, as ordinarily conducted, they may be declared to be in health.

"I wish, then, to propose as the only means by which to reach the evil and to obtain the good, *that there should be instituted, as a custom, a system of periodical examination, to which all persons should submit themselves, and to which they should submit their children.*

"Such an examination must include an inquiry into the family history, to

* Read before the Cumberland County Medical Society, Fayetteville, N. C., June 7, 1927.



learn the hereditary constitution; into the personal history, to learn all the previous diseases that have been passed through, and the habits and vicissitudes of life; into all the conditions of life surrounding the individual; into the conditions of the organs and functions of the body; into the state of secretions and fluids of the body by analyses and microscopical examinations, and so forth.

"If such a plan as I have here proposed were to be faithfully and conscientiously carried out by the present and rising generation of well-educated studious medical men, I think no one can doubt, after a careful consideration of the subject, that immense benefit would be conferred upon the public."

Thus spoke Dr. Dobell in 1861. I wish particularly to emphasize the last paragraph. It expresses the wisdom of an eminent physician based on years of medical practice. The idea lay dormant for sixty years and is now being slowly and cautiously adopted by the profession as, properly enough, every worthwhile advance in medical science has made its way.

The health examination is an appraisal rather than a diagnosis though it may involve a diagnosis. It is a logical development in the progress of public health. Medical science has dealt with the air we breathe, the water we drink, the food we eat, the clothes we wear, the diseases that afflict us and has now turned to the scrutiny of the individual in his habits of life as an entity. It does not imply anything new or unfamiliar in the way of technique—the various methods of determining the conditions of the organs of the body are the same as the physician uses in his daily practice;—the stethoscope, the thermometer, the scales and the blood pressure apparatus are still his main reliance. But his point of view in examining the apparently well person must differ somewhat from that with which he approaches the apparently sick; such an examination in its nature and method is essentially concerned more with physiology—with function—than with pathology or organic changes.

What may the physician hope to accomplish by health examinations?

First, and most obviously, he may hope to induce his patient to have corrected the physical defects from which few of us are free. Many of these defects are serious while many others lower our health by affecting our comfort. *Second*, the detection of organic pathology—perhaps unsuspected by the patient. Such discovery may demand active therapeutic treatment or surgical intervention, or what may be more difficult, advice on the conduct and mode of the patient's life. *Third*, the physician may recognize functional disturbances and such may call for all of his skill and experience and tact; and *Fourth*, even when the patient may appear sound with neither symptom nor sign to cause apprehension, the physician may yet recognize a mode of life, a type of conduct or habit which may reasonably cause him to fear for the future mental or physical health of his patient. Nothing is implied here of officious meddling in the personal life of his patient, yet the service which it is within his power to give in this respect is no less important than is implied in the other three. Furthermore, the physician may confer immense benefit upon his patient by allaying unfounded fears which seriously affect the lives of certain types of people.

In all of this, I think you will agree with me, lies the opportunity of the general practitioner, the family physician, to cement the bonds that unite him to his patients and enhance his prestige and their regards. I am not one of those who view with complacency the separation of the practice of public health from the practice of medicine, and just as we cannot conceive a specialist in public health ignorant of the fundamentals of medical science, neither is it desirable for the medical practitioner to fail in assuming his responsibility for conserving the health of the public. The most outstanding opportunity that has yet come his way is the health examination.

It is the custom in recent years to criticize the general practitioner and his decline has been foretold. There are signs, however, that he is beginning—and rightly—to come into his own again; the old fashioned practitioner is returning to us in a reenergized form. I had the pleasure year before last of

attending a conference on health examinations called by the American Medical Association in Chicago. The A. M. A. has the vision of what the health examination movement means to the medical profession and it has continued to stimulate both state and county medical societies to actively engage in the movement. A great deal of care and study and thought have been put into the American Medical Association standard record form and the method of conducting health examinations. The response has been slow because, among other reasons, I imagine, the performance of health examinations implies a readjustment of the physician's daily routine, as well as involving a new type of service. It is not to be wondered at if a considerable portion of the profession regard it as still another burden laid on their long suffering shoulders. But it is making headway and must progress as do all ideas founded on truth and containing real merit.

I would commend to you the example of the Kings County, New York, Medical Society which inaugurated health examinations in their community by holding a health examination clinic for their own members.

There has already accumulated enough evidence of the value of health examinations to reveal their benefits. Naturally the health examination movement is one which would strongly appeal to the intelligent self-interest of insurance companies. I do not intend to burden you with figures and tables but will summarize briefly a striking example of Metropolitan Life Insurance Company experience.

There were examined by the Life Extension Institute 6,000 policyholders, and at the end of 5 years their mortality experience was studied and the results computed. The total experience approximated 33,000 life years. According to the American Men Mortality Table—a recent and accurate actuarial table—we would have expected 303 deaths among these 6,000 people. There actually occurred 217 deaths,—that is the mortality was 72 per cent of the expected—a saving of 28 per cent. When we compared this experience with the experience of all our ordinary policyholders we found that the result

was 24 per cent in favor of those examined. Certain groups among those 6,000 gave noteworthy results. One group of 1,728 persons with albumen in their urine,—substandard cases—experienced a mortality of only 46 per cent of the American Men Table. Another group comprised 1,400 persons suffering from defects which were sufficient to have caused their rejection had their examination been for the purpose of securing insurance. The mortality here was less than half of what was expected.

What had happened? These people profited by the advice they received. They consulted their physicians, amended their habits, changed their diet, reduced their weight, protected as far as possible their organic lesions. Four years later they were again studied. Over the entire period of 9 years the mortality was 27 per cent less than the expected on the American Men Table and 18 per cent less than the actual mortality of all ordinary policyholders. Up to 1925 about 200,000 examinations have been made at a cost of over a million dollars.

There is one more phase of the health examination movement which I would like to stress before concluding.

There is occurring in many Southern communities a process of industrialization whose magnitude and importance are not yet fully appreciated. The cotton textile industry is being centered in the South and many other industrial developments are being started. While the ultimate effect is in the direction of prosperity and greater opportunity for the people of these communities, the industrialization of a rural population is not accomplished without some more immediate unfavorable results. The Southern states will be confronted—if they are not already so—by problems of a hygienic and sociological nature which will demand their fullest attention. You cannot make a factory worker out of a farmer or farm hand without requiring readjustments of the individual and his family which they themselves will be unable to make unaided. The personal health and environment of these families must be safeguarded, and in endeavoring to do so, the southern communities are in a

position to profit by the experience of the Northern and Mid-west industrial centers.

Everywhere in industry there is a growing demand not only for the physical examination of industrial workers but for their periodic reëxamination—both in the interest of the workers and of the industry itself. The physicians of these new industrial communities in the South may expect then to receive a demand for health examination service from the growing industries and they can make a most solid and far-reaching contribution to the public health by preparing themselves to deal with this responsibility in an adequate manner.

Conclusion

If the health examination is to become a recognized and permanent institution in the field of medical science, and if it is to reach any considerable

number of the population it will be only and because the general practitioner takes it to his heart and makes it his own. It is not and never will be a happy hunting ground for specialists, but on the other hand the well informed practitioner, able to recognize or suspect trouble in any region of the body, will insure his patients receiving such specialized diagnosis as they may require. It should always be impressed upon the public that a physical examination in itself is worth nothing. It is upon the intelligent follow-up of the information secured that its value depends. It is a somewhat trite saying, but one that is apropos, that we get out of anything only what we put into it. If the general practitioner will put into health examinations his brains and his experience, not only he but the public will be rewarded many fold.

COD-LIVER OIL AND SUNSHINE TO PREVENT RICKETS

It is said that cod liver oil contains the healing properties of the ultra-violet rays of the sun. These properties are necessary in preventing the development of rickets in children.

Rickets is a disease in which there is a disturbance of nutrition. These nutritional disturbances prevent a sufficient deposit of such elements as lime and phosphorus which are necessary to good bone formation. Children developing rickets have thus been deprived of these elements; and in addition to the development of some form of rickets children thus deprived of these elements are likely to suffer from very early teeth decay.

Parents of young children should know definitely the value of cod liver oil and sunshine. Parents of such children should consult freely with their physician or with baby specialists for detailed instructions in order to see that their babies are not deprived of these elements. It is well for these questions to have careful attention in the months of September and October, because with the coming of shorter days and longer, colder nights, the tendency to keep babies indoors more and therefore deprive them of the health giving rays of the sun is more

pronounced. Naturally the parents think that by keeping their children bundled up in too many clothes when they are sent out or keeping them indoors a greater length of time than they should, that they are protecting their children whereas the opposite effect is the result. The two extreme classes of the people that suffer most from these defects are the very rich and the very poor. The very rich child is over-protected, and the very poor child is underfed and poorly housed. To receive the benefit of these invisible rays of the sun, or as they are called, the ultra-violet rays, it is necessary to be out in the sunshine, because these rays do not pass through ordinary window glass.

Milk, which contains two of the vitamins which promote the growth of babies and helps somewhat to prevent rickets, varies considerably in its protective value with the seasons of the year. This is true no matter on what kind of food the cow is fed.

Expectant mothers should receive well balanced diets, abundant in green vegetables, and fruit with plenty of fresh cow's milk, and in addition to the diet they should spend all available time in the open air and sunshine.

After the birth of the baby if it is placed directly in the open sunshine for a part of each day from three weeks of age on for two or three years, and is given daily a small quantity of cod liver oil during this period, it is asserted by scientists who have made a study of the question that the prevention of decay of the teeth would eventually result and that rickets would disappear entirely from civilization.

We have some pictures which would illustrate the terrible deformity resulting from rickets in advanced stage; but we refrain from publishing these pictures which show so tragically the de-

formities in the bones of these children suffering from the disease in an advanced stage.

To sum up, if you are a parent, whether rich or poor, see that your child gets plenty of sunlight in the open air and of the kind of food necessary to prevent this condition. Pediatricians (that is, child specialists) have been earnestly demanding for several years that a small quantity of cod liver oil be given every child from three weeks of age to three years every day throughout the year, because they know of the intense importance to the future health and development of the child following such a procedure.

PERCENTAGE OF PHYSICALLY NORMAL CHILDREN

The question of what per cent of growing children are physically normal is a perpetually recurring one. In the first place, what may be said to be a normal standard is a varying one for different age groups and in different parts of the country. We have made many efforts in North Carolina to establish a normal standard, but about all we have attained is to adopt the height and weight standard laid down by New York writers and investigators. Ten years ago the writer of this article visited sixty-five public school institutes in North Carolina, or public institutes representing the teachers of sixty-five counties. We made examinations of children selected at random in the presence of these teachers. We then compared our records with the records of examination for about twenty thousand children previously examined by three doctors in the employ of the State Board of Health working in twelve separate counties of North Carolina the previous year. We took the findings of height and weight obtained in these examinations and made a table of comparisons with those of the United States Public Health Service obtained in similar manner in different sections of the country. We went still further and made a comparison of tables published by Holt and Boaz. From the information gathered from these sources we adopted our own standard which we followed for some years. The standards that we established do not differ ex-

cept in slight degree from the standards of the New York authorities now used throughout the country.

We have found in estimating underweight attributed to malnutrition that care is necessary in differentiating between family traits or family characteristics which would be somewhat misleading. In the case of grossly underweight boys and girls the matter is easy of diagnosis. But in the case of the numerous border-line children in which the weight deficiency, according to weight and height requirements, is found to play around ten per cent, it is much harder to ascertain whether or not the deficiency is one of malnutrition or otherwise. Most of the examinations made in North Carolina have been among boys and girls in school and between the ages of six and about fourteen. Ten years ago the defects were somewhat more numerous than at present. The greatest material reduction, however, in physical defects has been noted in the matter of decayed teeth. In the survey of North Carolina children ten to twelve years ago not less than eighty per cent were suffering from decayed teeth to a greater or less extent. Similar examinations reported during the last two years indicate that not more than fifty per cent of such children now suffer from such deficiencies.

While we do not have the figures at hand to afford an accurate statement, it is probable that defects of

vision are somewhat more numerous today among children than existed ten years ago. The reasons for this may be said to be obvious. For example, the material increase in enrollment in the schools, the increase in the length of school term, the enlargement of the curriculum to take in more studies, the increased circulation of books and magazines and newspapers, and probably more than all, the increased attendance on moving picture shows. All of these things tend toward eye strain in young children. Throat defects and latent tubercular tendencies are possibly present to about the same extent as ten years ago.

An interesting study was completed sometime ago of an east side school in New York City, of a total of two thousand boys, resulting in some exact information. The group of boys selected for study were past fourteen and under seventeen years of age. None of them had completed the eighth grade in school. The boys were all employed, but were required to attend school at least one morning or afternoon each week. All of these boys had work at different occupations. The examinations were made under the direction of the New York Tuberculosis and Health Association. Of the two thousand boys examined only two hundred and twenty-five boys were pronounced physically normal for the age. The examination extended over a period of eleven weeks. Four physicians did the examining and a special assistant carefully recorded all of the histories. Nearly a fourth of the boys had one or more reexaminations made. The New York Tuberculosis and Health Association directing this work made the survey under

the New York City Department of Labor. The examination was specific and definite and a specific diagnosis was requested concerning each defect located. The boys examined were nearly all of foreign birth or foreign extraction. Twenty-seven nationalities were represented, and in one group of two hundred and twenty boys given special consideration on account of particular occupations the boys were engaged in, it was found that they represented fifty-five different occupations. Some of the boys were considerably overweight, but by far the larger percentage was underweight. More than one-fourth of them had impaired vision, and sixty of them were found to be suffering from diseases of the eye in addition to refractive errors. Only four boys had impaired hearing, but there were sixty-seven cases of diseases of the ear found. Forty-five per cent of the boys were found to have decayed teeth to a sufficient extent to demand dental service. About fifteen per cent of them had various disorders of the heart. More than half of them were found to have diseased tonsils.

The writer of the report, as published in the *United States Daily*, "believes that such facts show the need for more extensive and detailed instruction of the school child in the elements of personal hygiene and for strict supervision of his physical development and that when the child leaves home and goes to work there should be consideration in the issuance of his work papers not of his age alone, but also of his physical condition and of the probable tax upon his strength."

CONSOLIDATED SCHOOLS

The fact that schools are being consolidated in the State of North Carolina with such rapidity means that the transportation of school children assumes a much more important aspect than heretofore.

During the school year 1926-27 the State's school system operated nearly twenty-five hundred busses which hauled almost one hundred thousand school children to and from school each

day. The school officials, of course, exercise the best judgment they can in selecting the drivers for the busses which haul these children, and accidents have been remarkably few. At the same time it is well for everybody concerned to realize fully the responsibility such a large enterprise entails.

There is a State law, according to the Attorney-General of North Carolina, which specifically provides that motor-

ists in passing a school bus on the highway, whether at a school house or not, shall come to a full stop when passing a bus taking on or discharging its children passengers. The deficiency in the law, however, lies in the fact that unless somebody is empowered with the authority to arrest a motorist who deliberately violates this law and endangers the lives of children, its operating efficiency is worth little.

There is no law, however, which would compel the road hog or speed motorist to give a little more than half of the road when meeting or passing a bus loaded with children. We have personally seen some near-accidents when the driver of the bus was perfectly helpless in meeting such a motorist. It is especially desirable that motorists give more than half the road, even to the extent of coming to a full stop by the side of the road, allowing a bus to pass when traveling on the sand clay roads, most especially if the

roads are wet and slippery. There ought to be a sort of unwritten rule in which the force of public opinion could operate and insure this item of care on the part of the traveling motorist public, and many accidents may be prevented and much suffering saved.

There are parents who are restless and uneasy almost all day when their children travel to school, and do not feel secure concerning their children's safety until they return home again in the evening. In the cities and towns the municipal government is taking increasing cognizance of this feeling and numbers of traffic policemen are assigned to duty in the vicinity of all the schoolhouses, especially during the hours when children are gathering at school or are leaving at the close of the session's work. The country children have no such protection, and therefore it behooves everybody to coöperate in every way possible toward making the transit of school children safer.

A USABLE HEALTH PLAY FOR ELEMENTARY GRADES

(The Second of a Series)

By ELIZABETH KELLY

This is the second of a series of short, simple plays for the purpose of furnishing a definite, usable plan by which children may learn for themselves the lessons of body building. The teacher may elaborate the plan and add to its attraction by introducing costumes and scenery and by supplemental use of songs, poems, games and other aids for a more pretentious program.

The main purpose of the plays is to teach thoroughly the fundamental requirements of healthful physical growth. This can be of real use only as the lesson is put into practice by each child in his daily life. The aim is to secure from children daily response in using the materials offered by the "Body Builders" until each child really and truly becomes an expert builder of his own health body.

This play takes into account the value of nourishing food as a body

builder. It is probable that the greatest number of school children in North Carolina today are living on a diet made up largely of meats, sweets and pastries, tea and coffee. Because of this fact the natural foods that mean health and growth are emphasized here. These foods are vegetables, fruits, coarse grain cereals and milk. Fortunately for our school children all these natural foods may be produced in abundance in North Carolina and will be produced and used when children fully realize the fact that they are their own body builders and must have suitable and fit material with which to build.

FOOD FOR THOUGHT

Cast

Teacher—A capable school girl.

Class—Four boys and four girls.

Mr. Nourishing Food—A healthy, wholesome school boy.

Fruit Bearer—Boy with basket of fruits.

Cereal Bearer—Girl with basket of cereals and bread.

Vegetable Bearer—Boy with basket of vegetables.

Milk Maid—Girl with bottles of milk.

Scene

A school room with teacher and eight class members ready for recitation.

Teacher: What is our lesson today?

Class: Food Builders of the Body.

Teacher: Our motto?

Class: Mens sana in corpore sano.

Teacher: What is the golden text of the Food Builders?

Class: The body is the temple of God.

The Lesson

Teacher: Will each of you tell one thing learned in our last lesson?

First girl: My body is being built and being repaired every day.

First boy: My body is strong only as I build it strong.

Second girl: I must use good material in building my body.

Second boy: We must know how best to use the materials in building our bodies.

Third girl: We must know what materials are best to use in building a strong body.

Third boy: We must know where and how to obtain the best materials.

Fourth girl: The body cannot be built in a day.

Fourth boy: We are our own body builders.

Teacher: You remember the four master body builders, Mr. Nourishing Food, Miss Refreshing Sleep, Mr. Healthful Exercise and Miss Bodie Cleanliness came and promised to show you how to use their materials. Which one promised to come today?

Class: Mr. Nourishing Food.

Teacher: I think I hear Mr. Nourishing Food coming now.

(Enter Mr. Nourishing Food with two boys and two girls each with basket containing (1) fruits, (2) cereals, (3) vegetables, (4) milk.)

Mr. Nourishing Food: Well, here I am as I promised ready to show you

my materials and tell you how to use them.

Teacher: We are glad to have you here and we welcome the boys and girls whom you have brought with you.

Mr. Nourishing Food: These boys and girls have brought for you samples of my choicest and best body-building materials.

Class: Goody! Let us see and try all the materials!

Mr. Nourishing Food: Not so fast. Bodies are not built that way. Permit me to show you the contents of one basket at a time while we talk about how best to build with its material. Which will you have first?

Class: Show us what is in the fruit basket first and tell us how to use it.

Mr. Nourishing Food: Mr. Fruit Basket Bearer come forward and show us your wares while we talk about why and how we use them.

(Fruit basket boy takes from his basket different fruits and shows them to class while Mr. Nourishing Food tells of them.)

Mr. Nourishing Food: Fruit is one of the four classes of food which all of us can have and must use in building strong bodies. The best fruits are apples, oranges, peaches, grapefruit, plums, figs, and stewed prunes.

First girl: Are these all the kinds of fruits that are good body builders?

Fruit Bearer: No, these are the kinds most used. There are many other kinds that are also good.

First boy: Are fresh fruits and canned fruits and dried fruits all good materials for me to use?

Mr. Nourishing Food: Dried fruit is good, fresh fruit is better and canned fruit is better than no fruit at all.

Second girl: How often must I use fruit?

Mr. Nourishing Food: Fresh or stewed fruit should be eaten daily. Fresh fruit should be thoroughly washed or peeled before it is eaten.

Teacher: Thank you, Mr. Nourishing Food. We will study all about these fruits and how to use them. We will also find out about other fruits and why we must use fruits in building strong bodies.

Mr. Nourishing Food: Miss Cereal Bearer, will you bring forward your basket and let us discuss its contents?

Miss Cereal Bearer: I have uncooked and cooked cereals, bread and other grain products.

Second boy: Which is the better material cooked or uncooked cereals?

Mr. Nourishing Food: Cooked cereals are better builders, but uncooked cereals together with fruit and milk are also valuable. Among the best cooked cereals are oatmeal, whole cracked wheat, cream of wheat, corn meal and other crushed grain preparations.

Third girl: Which kinds of bread do you have?

Miss Cereal Bearer: Dark breads are used most, although I have some other kinds.

Mr. Nourishing Food: The best bread body builders are whole wheat, bran, Graham and whole rye.

Class: Tell us more about cereal body builders.

Teacher: We will study why the dark breads are better body builders and also why cooked and raw cereals are good materials to use.

Mr. Vegetable Bearer: Let me show what I have in my basket.

Mr. Nourishing Food: Let us see your wares. Some of the most important ones are beets, spinach, green beans, asparagus, raw cabbage, cauliflower, peas, lettuce, tomatoes, carrots, onions and turnips and potatoes.

Third boy: Are these all the kinds of vegetables that are good body builders?

Mr. Nourishing Food: No, but these are some of the best and can all be raised in your own gardens in North Carolina. At least two of these vegetables besides potatoes should be eaten each day.

Mr. Vegetable Bearer: How many of these do you eat and how many other vegetables grow in your gardens?

Teacher: We will find out these things and also about the value of cooked and of raw vegetables as body builders.

Mr. Nourishing Food: And now comes the finest and best of all materials for use in strong body building.

Milk Maid: The best comes last and this milk bottle contains our best all-round food. Milk is the most perfect and the cheapest food. Milk is necessary for children and is valuable for grown-ups.

Fourth girl: Why is milk the best all round food?

Mr. Nourishing Food: Milk is our best all-round food and most valuable because it contains already prepared nearly all the necessary elements of a good mixed diet.

Fourth boy: What can we do to make milk a good body builder?

Mr. Nourishing Food: Nothing. It is already made, you can keep it cool and clean and drink at least three glasses of it each day.

Teacher: Mr. Nourishing Food, have you any other materials that are good body builders?

Mr. Nourishing Food: O yes, pure water is most important and at least four glasses should be drunk each day by the good body builder, one glass on rising and one before each meal is the general rule for girls and boys.

Teacher: But is there no other foods that are good for body builders?

Mr. Nourishing Food: Yes, there are various kinds of meats, sweets and pastries. But you must remember I was to bring you my best materials. The best foods for daily use in building a strong body are fruits, vegetables, cereals and milk. These I have brought to you and these the body builders must use daily, if his body is to be good looking and strong.

Teacher: Mr. Nourishing Food, give us a statement which the Body Builders may take as their creed.

Mr. Nourishing Food: "A maximum of vegetables, fruits, cereals and milk; and a minimum of meats, sweets, and pastries; neither tea nor coffee."

Class: We will learn the creed and live by it.

Teacher: Mr. Nourishing Food, we thank you for coming to help us and we will remember the things you have taught us.

Class: Goodby and good luck, Food Bearers and Mr. Nourishing Food. We hope you will help others as you have helped us.

MALNUTRITION

The Great American School Disease

By FRANK HOWARD RICHARDSON, M.D., F.A.C.P.

In malnutrition—we are coming to recognize a new disease,—or rather, an old disease with a new name,—that has been well called “the great American school disease.” This begins at some time or other after that carefully looked after first year of life, that by now has come to be pretty efficiently supervised, in most respectable homes. Somewhere between the second and sixth years,—the Neglected Age, it is being called by workers with children, because it is a time when this careful scrutiny of babyhood has been relaxed, whereas the medical inspection that will come on the attainment of school age has not yet begun,—this characteristic condition with its decreased muscular tone, its fatigue effects, and its marked underweight, has its commencement. And by the time school age is reached, a rather severe degree of malnutrition may have developed, without any definite realization of this fact on the part of the child's parents.

It has been found that whenever a group of school children is carefully examined, weighed, and measured, a certain appreciable proportion of them (somewhere between one-third and three-fifths) will be found to fall seriously below the weights that have been found to be average for children of their respective *ages and heights*.—(not ages alone), as given by the little Baldwin-Wood Weight-for Age-and-Height Tables. These are published by the American Child Health Association, 370 Seventh Avenue, New York City, and supplied by them for five cents a piece. In addition to this underweight, such children show all the evidences of a severe degree of fatigue,—not only after exertion, be it understood, but even before any effort whatsoever,—as for instance when they first get up in the morning. A systematic study of these children has revealed the fact that they have difficulty with their school work. They have to repeat

their grades; they create disciplinary problems; and they are prone to exhibit the symptoms and traits described elsewhere as being characteristic of “nervousness.” It has remained for the progressive science of the first quarter of this century to recognize this group as suffering from the definite condition, malnutrition; to study its causes; and to work out a satisfactory technique for treating it, so that children suffering from it may regain their normal state of health and efficiency.

Sympathetic study of these children has elicited the fact that they owe their condition, as a rule, to one or a number of fairly common causes, that may for convenience of consideration be grouped under four headings. These are: 1st, Physical Defects; 2nd, Faulty Health Habits; 3rd, Faulty Food Habits; and 4th, Emotional Strain, both at home and in school. It will be necessary to go far enough into these causes to understand their action, and to outline a successful line of treatment, if we are to salvage the large number of children whose “nervousness” is due to malnutrition.

Perhaps the commonest of the causes in the first group, physical defects, is the hypertrophied and sometimes diseased condition of certain structures of the nose and throat, commonly spoken of as “tonsils and adenoids.” Without pausing here for the word of protest that ought to be spoken against the wholesale, unthinking removal of these structures that has become the vogue in recent years, it is only fair to state that in many instances this simple operation is the beginning of the cure of malnutrition, and of the nervous symptoms that have accompanied it. This consummation will have much more chance of coming to pass, if the parents will regard the operation as the major one that it undoubtedly is; and will keep the child in bed for from five days to a week following it, instead of considering it lightly, and allowing the

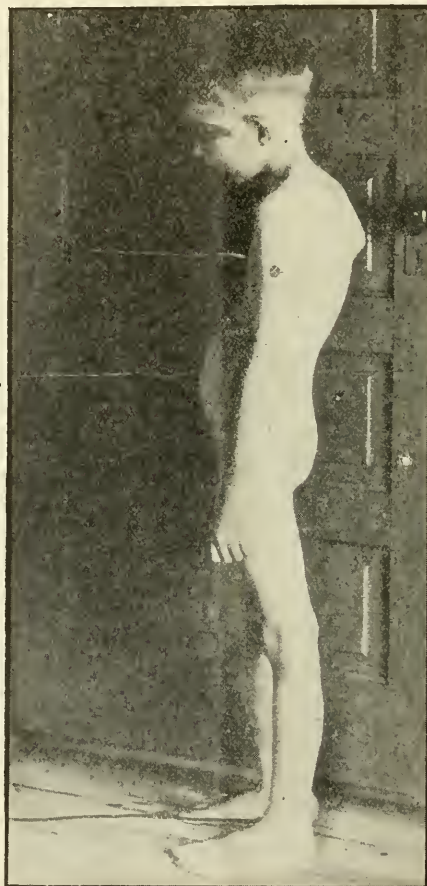
PINCHED
FACIAL
EXPRESSION

MOUTH
BREATHING

FLAT CHEST

PROTUBERANT
ABDOMEN

KNOCK
KNEES



ROUND
SHOULDERS

"ANGEL
WINGS"

SWAY BACK

FLAT FEET

TYPICAL
POSTURE OF MALNUTRITION
(SO-CALLED "FATIGUE" POSTURE)

child to run about half sick, with a badly lacerated throat, and perhaps a moderate temperature indicating the depleted condition that follows any such operation as this. If such care is not taken, the results are quite likely to be exactly the reverse of what has been hoped for; and instead of improvement, increased underweight and even more serious fatigue may supervene, from which the child will not recover for many months.

Another cause of malnutrition may be an undetected and uncorrected eye strain. This may be due to either farsightedness, near-sightedness, or that distortion of the shape of the eye-ball itself known as astigmatism. If allowed to continue without correction, headache, retardation in school, and marked malnutrition, with any conceivable nervous symptom or symptoms, may develop.

Other physical causes are such wasting diseases as diabetes, tuberculosis, or syphilis, that produce malnutrition. Sometimes the cause is found to be some form of heart trouble. Such defects can only be discovered by a complete, careful examination by a physician. Wherever their removal is possible, this should be accomplished. If such removal, and consequent cure, are found to be impossible of accomplishment, then at least such palliative treatment should be given as will do the utmost to minimize the bad effects of the physical defect that is at the bottom of the trouble.

Among the causes found in the second group, faulty health habits, we need only run over in review the habits of any family of children that we know fairly intimately, in order to find a promising start for our list! Late hours, over-indulgence in moving-pictures with their eyestrain, poor ventilation, and unwholesome emotional stimulation, reading of trashy fiction and depraved newspaper sex and crime "news," as well as the overhearing of adult conversations not thoroughly understood but none the less harmful and suggestive in their implications and innuendoes,—all these rank high among the faulty health habits that are producing malnutrition among our children. We parents are confirmed and hardened offenders in this matter of

discussing subjects that should be taboo, before our children; and trusting to a stupidity that we would be the first to deny were others to assume it, to protect them from ideas that we should never have allowed them to entertain, had we given the subject the serious thought that it deserves.

In the third class of causes, faulty food habits, high place must be assigned to overindulgence in candies, drug store drinks, and sugar in inordinate amounts at the table. Eating at the wrong time, between meals instead of at meals, is a close second. Still another contender for first place is the over-centering of parental interest in what the child eats, what he will not eat, and why he will not eat it, with a consequent exaggeration of his sense of his own importance, and his power to upset his elders' peace of mind by his food idiosyncrasies. As this question, and the proper way to deal with it, has been considered at some length in an earlier article, "Refusal to Eat," in *Children, the Magazine for Parents*, January, 1927, it need not be gone into further at this time.

The fourth class, emotional strain, embraces two great sub-divisions, each of which deserves a volume,—namely, Home Strain and School Strain. As both are considered elsewhere (*The Nervous Child*, Putnams, 1927), they need only be mentioned here.

What about the cure? for malnutrition is in the vast majority of cases curable, else its consideration would be futile in the Bulletin. The effort at bringing about a cure must be twofold: first, the removal of the causative factors and second the building up of the child by increased rest, increased food, and decreased or elimination of the factors contributing to his fatigue. The removal of the causative factors is self-explanatory—the very discovery of the cause should indicate the need for its removal before a permanent cure can be accomplished.

As to the second phase of the cure, this is also self-evident—though it is not nearly so easy to accomplish, by convincing the parents of its necessity, as is the first. It consists in the following regimen:

(a) The institution of five meals a day by the addition of two extra meals,

one in the middle of the morning, and the other in the middle of the afternoon.

(b) The elimination of *all sweets*, of any sort whatsoever, until such time at least as the weight regains normalcy: better, permanently.

(c) The discontinuance of all sorts of pressure to persuade the child to eat, thus allowing appetite, which is a perfectly normal function until perverted by parental interference, to function.

(d) The institution of a daily nap period, immediately after the midday meal, and before the midafternoon lunch.

(e) The discontinuance of attendance at the afternoon session of school, and of all homework. Children so excused, greatly to the surprise of their parents, are not as a rule "left back" at the end of the term. On the contrary, they have been found to comprehend the important subjects of the morning session

so much better than before, that a very little coaching enables them to go ahead with their less fortunate long-session schoolmates.

(f) The clearing up of as much unnecessary friction at home—meddlesome discipline, fussy oversolicitude, causes for jealousy, etc.—as is humanly possible. Strange as it may seem, much actual malnutrition is a direct outgrowth of such unhygienic mental and emotional home conditions.

Cure may be considered as having taken place, when the child wins his way to the point where his weight is two or more pounds *over* what the Baldwin-Wood tables give as the average for a child of his age and height. The fact that an improvement or cure of most of his other symptoms and signs will be found to accompany this climb back to normal weight, justifies this definition of the cure of malnutrition.

EXHAUSTING CHATTER

To our mind one of the most important commands of the Master has always been conveniently ignored by nearly everybody, church people and otherwise. We refer to the command "Let your communication be, Yea, yea; Nay, nay." There is probably no other one single item in the world that so undermines the health of so many people as useless exhausting chatter. Simple talk it is called with the chief interest always centering in gossip, with somebody's character generally up for dissection. When we think, if we ever do, of the tiny speck of time allotted to a human on this earth when compared with the endless ages back of such human and stretching out in front of him, it does seem that some of us at least would sometime realize the importance of conserving some of this time for more serious things than simple chatter. There are so many things to learn and such little time in which to master them that it seems criminal to waste our time as we do. We hear on every hand expressions from people in every grade of society complaining at the monotony of life, the dreary routine, and the dullness, and so on. To

a human being with the capacity to think, and to reason, and to dream, and to imagine, such an expression means only one thing, that the person giving voice to it simply has his or her world restricted to the small things in his or her circle.

Richard Washburn Child, in a syndicate article we read sometime ago, gives voice to the following expression:

"Sit on a train or a street car and listen to two people talking. Count the sentences and paragraphs that have anything whatever in them except mere noise. You will find that about nine out of ten words need never have been said at all. And as for brotherly contact, you will see, often enough, that the voices-noises are being made like the efforts of those who in the black night find themselves in deep water and expend energy in swimming strokes. Plunged into conversation, the strokes of talk are often even more purposeless.

"We do chatter our lives away. There is not one of us who, challenged, will not say that we talk too much."

The foregoing expresses what many of us have often thought purposeless and useless expenditure of valuable

time. It may be that because the writer of this article is afflicted with sufficient deafness to protect him from this useless chatter that he has a perspective and a viewpoint that people of normal hearing generally do not have. This talking to excess drains us of energy which would much better be conserved for more useful purposes. A man goes to the lodge meeting and listens to hours of idle talk; another goes to the medical society meeting and the talk is often even more useless; still another will attend a political gathering and the gas expended is still more useless; and worst of all are the street-corner loafers and those who take up their time hanging out at such places as filling stations, around drug store counters, and so on, where talk is ninety-nine times out of a hundred useless if not really damaging to the character of somebody. Women folks have their clubs and bridge parties which have now-a-days taken the place

of the old-time sewing circles at which so much fun was pointed by the wise ones in the days gone by, just like the filling stations and the drug stores have taken the place of the old time cross-road grocery stores of days gone by. They come home exhausted and irritable and nervous; and what has it all amounted to? For the most part an expenditure of energy in idle talk.

Mr. Child, in the same syndicate article mentioned, says that "probably nine-tenths of the hate, fear, passion, violence, and distrust in the world comes not from acts that make real difference, but from talk that makes none.

Science is accomplishing many wonderful miracles now-a-days, but it can never devise a method for helpfulness to the human race in this matter that will surpass the command given and quoted at the beginning of this article: "Let your communication be, Yea, yea; Nay, nay."

ARE WE HELPING OUR CHILDREN OR HINDERING THEM?

By GEORGE S. STEVENSON, M.D.,

Field Consultant, The National Committee for Mental Hygiene

It is a hopeful sign when we can honestly ask for criticism of ourselves and particularly so on such a personal, touchy subject as whether we are helping or hindering our children in our efforts to rear them properly. Too often, when doubts assail us, we look merely for support and confirmation of our ways of handling family problems instead of for constructive criticism. It is true we are all more or less agreed, in general, on what we are aiming for with our children. We may differ considerably as to the measures used in training, but we believe the ends desired are, on the whole, the same. Whatever the particular terms in which we think of our children's interests, in the long run we hope that they will attain in their adult lives to two things: First, they must get as much satisfaction out of life as possible and, second, they must be as useful as possible.

The question arises: "Are we doing for our children that which hinders them or that which helps them to become happy and useful adults?" There is no question here about our aims or good intentions, but there is just as surely no question that many of the things we do interfere with a complete realization of our hopes. We try hard to do the right thing, but, being human, we get excited when we should remain calm, we are selfish when we should consider the child's interests, we "let things slide" when time can only make them worse, or we fail to look ahead as we should to anticipate future needs. Our difficulties arise from the complexities of present-day civilization that make the natural, undeveloped assets of the child frequently so inadequate for adult demands. Were we living under the conditions of primitive man, we should be spared many of our problems and our children would grow

up with enough innate ability to meet all the demands of a simple community life. But for the difficult and intricate tasks of adjustment in modern life it is necessary to supplement with a formal training what the child gets from informal association with his fellows. It is here that we often go wrong and by unwise management complicate our jobs still more. The training process thus becomes an alternation of helps and hindrances. *There is probably no more important consideration in child training than the fact that we fail to distinguish between what is good for the child and what is comfortable for us. All methods resulting in "spoiled children" can be referred back to this selfish motive.* An attempt is here made to point out some specific types of misguided effort in child rearing and in dealing with childhood problems.

Dictum 1

When we protect a child from all unpleasant experience or do anything for him that he can safely do for himself we hinder his development.

Why? Experience is the food upon which personalities thrive. Good or constructive experience is as necessary for the proper growth of a personality as good food is for a well-developed body. Such experience is sometimes denied the child because we think it is unpleasant for him. Almost every change of habit is unpleasant yet we must realize that good personality development is a process of forming useful habits in the beginning or changing useless habits to useful ones later on. Experiences considered constructive are often quite the opposite, they may be beyond his ability, or they are so involved or complicated that the child gets nowhere.

Example: John was five years old and wanted a scooter but he was given an electric train instead. He could play with it when supervised and then his Dad did most of the playing. John knew how to make the scooter go himself but he soon lost interest in the train because after his father had turned on the switch all he could do was to look on. What his parents thought was useful experience for the lad was really useless. They treated

him similarly when he went to school. Mother took him there every day till he reached the fourth grade. His school mates called him a "sissy." Even then he could have "proved his stuff" had he been given a chance, but his mother was afraid a good fist fight would kill him so she continued to slaughter his chances for development instead. When John was twelve and wanted to go camping he was not permitted to. "Why he is a mere child" was the reason given and he continued to depend on his mother. At eighteen he was sent to college with hardly an idea from previous experience of how to meet his new responsibilities, and as a consequence he "went wild."

Dictum 2

Whenever in dealing with a child's problems we apply corrective measures which ignore or evade the real, basic trouble, we hinder his growth.

Why? We fail to remove the irritating causes with the natural effect—they continue to make trouble. We introduce into the situation ways of handling it that do not help the child to understand himself and which would require him to change his behavior without understanding why. This irrelevant discipline only confuses him, and prevents him from working things out for himself, and makes things worse. Such acts on our part tend to distort his whole behavior and to interfere with his proper mental development. It is like finding a button and buying a suit to match it to expect him to reorganize his whole make-up to fit his parents' erratic requirements.

Example: When warned not to do something he should not do John seldom paid attention to his mother. She found it necessary one day when company was coming to give him a quarter to be good. She bribed him to be good and it paid him to be bad! It would have been more effective and less demoralizing had she excluded him from the party until he could be pleasant, thereby showing him how disagreeable behavior makes a person disliked. Then, after the party, she could look to herself, and revise her own tendency to nag and to make threats which she did not intend to carry out. Why did

she not choose the better way? Because she "got a kick out of showing him off to the crowd." That was her fun, not his.

Dictum 3

When we give a child something to do that is beyond his capacity we hinder his progress.

Why? We fail to give him work that he can do that will help him develop. Invariably, as a result, he will "kill time" and turn away from his job. He will get the habit of "killing time" when any job comes along, or he will look for a "boost" to make up for the disappointment born of failure to do the original task. These "boosts" are usually had by taking unfair advantage of others.

Example: John was an average boy but his mother got a thrill out of thinking him a budding genius. She made special efforts to get him advanced in school. Against the advice of his teacher he skipped his grade because his father had "pull." John could not carry the new work. In each class he arrived at the end of his rope in a short time. He developed the habit of loafing and fooling away his time. It annoyed others in the class. He realized he was failing and made up for it by cheating. Why did John's mother want him to do the next grade? Why would she not recognize him as just an average boy? For the same reason that she had to "show him off" when company came? Was it for John or herself? Certainly not for John. Don't be ashamed of your child's capacity. If he has the capacity to be a taxi driver rather than a college president, at least make him a good taxi driver. If he is driven to the impossible ambition of becoming a college president he will have nothing to depend on and will likely become your permanent boarder or an unhappy misfit in whatever job he gets.

Dictum 4

Whenever we handle a problem of childhood according to the impulse of the moment, we are apt to do so in a way that is erratic, inconsistent and destructive of the morale of the child.

Why? The child is not just a basketful of behavior, or a series of separate

and unrelated actions, different on different occasions. His way of behaving is closely linked up with him and his make-up. It follows the pattern of his personality consistently and closely. When we are inconsistent with him we are throwing a monkey wrench into his machinery. It is like pouring grapes into a cotton gin and expecting good grape juice to come out. We must have a basic philosophy, a fundamental life aim, and a sound knowledge of the child's potentialities. We must establish a policy and stick to it until it proves itself inadequate. When we change our policy our reasons for the change must be made clear to the child; otherwise our mandates will vary with our moods and fickle desires, to his detriment and our own regret.

Example: John's mother ruled that he must not get up from the table during a meal unless necessary, in which case he must ask her. But five times out of six, when he disregarded the rule, she said nothing about it, making a great uproar the sixth time only because he broke a dish or spilled the beans. John never knew where he stood. To John the kitchen stove was more sensible; since the first warning of its burning flame, that fixtures had had a perfect understanding with the boy, and he respected it. When he wanted to do something which involved the danger of burns from the stove, he did not hesitate, or question the stove, or wonder what mood it was in, or stop to see if the stove were looking, nor did he become emotionally upset or sullen. He proceeded cautiously to gain his end without disrespect for the qualities of the stove.

Dictum 5

Whenever our idea of good or bad behavior is determined by what annoys us and "gets on our nerves," we are uselessly training the child to conform to our own life-pattern.

Why? Such training will be as valuable as a leaden quarter to him later. What annoys us is, in truth, often the thing that reveals and proceeds from weaknesses and twists in our own character. If we train the child merely to suit us we often model him after a warped pattern. In adult

life he has to fit into a real world, not an imaginary one created in the likeness of our egotistical selves.

Example: John's mother was very sensitive about sex matters, for like many of us, she had been brought up on the stork story and so, when John said, "Where do babies come from?" the long dreaded moment had arrived. At first she flushed and stammered from embarrassment; then she managed to tell him that such questions were very, very naughty, that he should not think of such things, and that he should run up stairs and stay until he could think better thoughts. If during the next few years John had followed this advice in dealing with forbidden questions he would have worn out the stairs and many pairs of shoes.

Dictum 6

When we feel that our child is merely a reincarnation of our own selves—body, mind, desires and peculiarities—we don't give him half a chance.

Why? We don't take advantage of the special abilities that he has and we have not. We don't help him overcome his special faults. We prepare him for a life that he probably cannot fit into even if we think we can.

Example: When John's father was a youth he aimed to be a lawyer. But he went West and his ambition remained a dream. Now he wants to make John a lawyer so as to fulfill

his dream. But John was not made to be a lawyer. His ability and interest were elsewhere. He had real talents in science but these talents were buried under the resentment of his father's insistence on his being a lawyer. The father lost interest in the boy who was so ungrateful for an education in law and the boy drifted into an unsatisfactory job in the business world.

So, to return to our consideration of the dominant motive back of these undesirable situations:

The father often thinks of his children as being ungrateful when in fact he is himself the ingrate.

Selfishness is written all over his dealings with them.

He sacrifices the child to his ambitions.

He shuts the child in and spoils his play because that is the easiest way to avoid being bothered by this job he has to do—the job of training his child.

He is puffed by the child's brilliance and chagrined by his failure—forgetting that he is not alone responsible for the child's inheritance and training.

He evades his task . . . he waits . . . he thinks his boy will outgrow his faults. . . . As well expect a cracked foundation to mend as the structure rears.—*Mental Hygiene Bulletin.*

ADEQUATE PUBLIC HEALTH SUPPORT NOW POSSIBLE

We are publishing in this issue an article from the *Norfolk Journal and Guide* under the title of "Helping Those Who Help Themselves." The article, as will be noted on reading, specifically calls attention to the material assistance rendered to the cause of negro education in North Carolina by Julius Rosenwald of Chicago. The conclusion of the whole matter, from the standpoint of the editor of the *Norfolk paper*, is that Heaven helps those who help themselves.

Just here is a good time for us to emphasize the fact that this principle not only applies to states and individuals but to county and city governments as well. There has been con-

siderable discussion in the newspapers of North Carolina about the new county finance act enacted by the last legislature. This act greatly strengthens the cause of county public health work in North Carolina. It does this because it makes it possible for any county, no matter how small the population or how little the wealth, to give adequate support to public health. The reason for this fact is that the law now, under this particular statute, recognizes public health work as an unequivocal essential necessity.

Fifteen years ago, when the writer was assuming the duties of a whole-time county health officer, the question first to be settled was the ability under

the law of the county department of education and the county board of commissioners to contribute a cent toward such an enterprise. The matter had been partially settled so far as the county board of commissioners was concerned; but it was ruled by the State officials that the county board of education did not have any right under the law to devote one penny to the care of the health of its school children, although the same law allowed salaries

for janitors and such things under the head of essential necessity.

It is to be hoped and expected that every county in North Carolina not now doing so will now proceed under this law to provide adequate public health protection for all its people. And, in conclusion, we want to urge those in authority in counties who do not now make such provisions that Heaven and the State help those who help themselves.

HELPING THOSE WHO HELP THEMSELVES

So much has been said and written lately concerning North Carolina's progress in good roads, education, inter-racial liberalism and intellectual freedom, that further encomiums on that state's rapid advancement would become rather trite were it not for the fact that its people have the happy faculty of discovering new defects in the social fabric toward which to direct their remedial energies. That state has received much deserved praise in recent years on the many advance steps it has taken along various lines, and now it is in a fair way of being lauded as another "first" by reason of the survey its board of charities and public welfare, aided by a \$5,000 donation from Julius Rosenwald, of Chicago, is about to project into negro child welfare in the State.

The question is, how does North Carolina do it? Rosenwald gives \$5,000 for a study of negro child welfare; \$25,000 toward a negro Y. M. C. A. in Winston-Salem, the full cost to be around \$250,000 and the remainder to be provided by local colored and white citizens, all in a month's news. But the full record reads, "Rosenwald gives more for education in North Carolina than he does for any state in the south; 600 rural schools in the commonwealth bear his name. Why such an affinity be-

tween the Rosenwald philanthropy and North Carolina's ambitions?" We are not peeved. It is really good news, even if Virginia must be content merely to read of the good doing in Tar Heelia. But our query is easily answered in the Herculean reply, "Heaven helps those who help themselves." North Carolina does things for itself. The right sort of philanthropy is always conditioned upon what one does for himself, and by doing things for itself, the Old North State attracts the helpfulness of others.

In the same tone, it might be asked, how is it that the colored citizens of that State are generally able to get such generous support from white neighbors for their projects—the white people giving as much as \$100,000 for the new negro hospital in Greensboro, and pledging \$150,000 for the proposed Winston-Salem colored Y. M. C. A., for instance? Much in the same way we answer, "Heaven helps those who help themselves." The negroes in North Carolina are seeking to do things for themselves, hence the hearty coöperation of their white friends.

Like the idea or not, people have just got to help themselves before they can expect the help of others.—*Norfolk Journal and Guide*.

EXPERTS DISAGREE ON SEX EDUCATION OF CHILDREN

A sharp difference of opinion among authorities on the sex education has been revealed when "*Children, The Magazine for Parents*" put the important question, "When should sex information first be given a child?" Dr.

Katharine Boment Davis, General Secretary of the Bureau of Social Hygiene, heads one school of thought in maintaining that the correct answer to the question is that sex information should be given when the child first

indicates an interest in such matters. Anno Whitney, Acting Director of the Division of Health Education of the American Child Health Association, and other authorities argue that the correct answer is that sex information should be given before a child goes to school.

The controversy has arisen as a result of one of the questions in "An Intelligence test for Parents" prepared by Dr. Bess V. Cunningham, Supervisor of the Educational Clinic of Teachers College, Columbia University, and published in a recent issue of *"Children."* Dr. Cunningham gave as the correct answer to this question, that sex information should be given when a child first indicates an interest in such matters. So many parents have expressed dissenting opinions that in the July issue of *"Children"* the opinions of additional authorities on sex education are published.

Dr. M. J. Exner, Director of the Division of Educational Measures of the American Social Hygiene Association, writes: "Sex education being merely a phase of character education as a whole, must be a continuous process from early childhood to full maturity. The time at which sex instruction should begin depends largely upon the child and his surroundings. It should certainly begin somewhere between the ages of three and six. If wisely given, it cannot begin too early. Certain researches now going on seem to show that those individuals who have their sex curiosities satisfied in very early years make on the whole a more successful sex adjustment in later years than do those to whom the instruction comes in the latter part of the pre-adolescent period.

"The important fact to bear in mind is that we have no choice as to whether the child should receive sex impressions and information. It receives those inevitably from every part of its environment, including the home. We only have the choice as to what kind of impression is the dominant. Our task is to forestall the street in this matter. Every child before entering school should be fortified with a knowledge and correct interpretation of the origin

of life, including human life, with familiarity of the human body of both sexes, and in general with a wholesome scientific unemotional attitude toward sex and reproduction. The child will then come to the parent for further enlightenment."

The consensus of opinion seems to be that a child should be given sex information as soon as he indicates an interest in such matters. If he has not of his own accord expressed such an interest before he goes to school, the wise parents should tactfully foster an interest by introducing the matter in connection with pets or in stories. All agree that children should get information regarding sex and reproduction from their parents. Dr. Benjamin C. Gruenberg, Managing Director of the American Association of Medical Progress and author of "Parents and Sex Education," states that although children develop an interest in sex matters at varying ages, most normal children will seek and should get this information before they are six years of age.—*Children, The Magazine for Parents.*

PULSE RATE SIMPLEST HEALTH TEST

Probably more fun has been poked at doctors, especially the old-type country doctor, for their unflinching reliance on the pulse rate as the simplest and most reliable gauge of a patient's condition. The old doctor, however, can sit back and laugh now at some of his more elite critics. The reason for this satisfied feeling of "I told you so" is to be found in a recent report of a group of scientists who have made elaborate studies and gone into details of every description in the search for a simple test of physical fitness. Their conclusion of the whole matter is that the pulse beat affords the best and simplest test of health. For at least fifty years the search for tests and standards which would establish in a simple manner the condition of physical fitness has afforded a "fascinating field of study" for large numbers of scientifically minded research workers.

LONG SCHOOL DAY FOUND DETRIMENTAL TO HEALTH OF PUPIL

Classroom Achievement Unrelated to Hours of Attendance
at Study

VARIED ACTIVITY URGED

Bureau of Education Asserts Value of Physical Training for Youth

Tendency to lengthen the school day, while it may be well for children with unfortunate home conditions, has its disadvantage in detracting from the health of the ordinary pupil, says the Chief, Dr. James Frederick Rogers, of the Physical Education and School Hygiene Division, Bureau of Education, Department of the Interior, in a statement made public July 23.

Because children thrive best with open air, sunlight, and activity, the part-time system which has been enforced by necessity in some schools may in many instances be a blessing rather than otherwise through the shortening of the school day, Dr. Rogers said.

Long Hours Harmful

The full text of the statement follows:

The length of the school day fluctuates from time to time, and just at present the day seems to be waxing rather than waning. While this may be a good thing for children unfortunate in their home conditions, it should be constantly kept in mind that children, like other animals, thrive best with open air, sunlight, and activity, conditions which ordinary school life do not yet afford.

It needs also to be remembered that it is just as fallacious to affirm that the more we school a child the better educated he is, as to believe that the more we exercise his muscles the stronger he will become, or the more we feed him the bigger he will grow.

As Dr. F. H. Richardson, consultant of the New York State Department of Health in children's diseases, expresses it:

"The most menacing habit of childhood . . . is nothing more nor less

than undue indulgence in school attendance."

In many of his own patients shortening the hours of attendance has resulted in more than a gain in health, for they were able to take more interest in their studies and to do better work educationally with the shorter hours. In the lower grades, at least, a child's capacity for work is exhausted in three hours or less, and to urge him to work thereafter is as ineffectual as trying to persuade a horse to drink when he is in no mood for so doing.

In this connection L. M. Terman, in his recently published *Genetic Studies of Genius*, notes that:

"Within a given age group the intelligence and achievement scores earned are totally uncorrelated with length of school attendance."

The part-time system, enforced by necessity in some schools, may in many schools be a blessing rather than otherwise when the school day for pupils in attendance is thus shortened. While the most favorable hours for school work cannot be arranged in double session, we have failed to hear of schools in which the progress of the pupils was less satisfactory than with full sessions.

Appetite for Learning

With such opinion and evidence one must feel inclined to put oneself more in sympathy with the child than is usually the case of the anxious pedagogue, and to wish to shorten rather than lengthen the school day if not the school year. When it comes to filling the child's brain with a multitude of facts, possibly the time element may seem essential; but the average results of achievement tests would indicate

that he either has little appetite for what he is fed or he is sadly oversupplied with fodder.

There is another side to the subject, however, and the average child is perhaps at present better off than if his school hours were shorter, for if he faces the Scylla of pedagogic demands on the one hand, there is, on the other, the Charybdis of indifference to his needs out of school hours. The solution of the latter problem lies in the program of highly varied activities and in wisely (though not too much) supervised play.

Instead of the half day of directed physical activities of the Greeks, whom

we are always envying but never imitating (how did they ever attain such superiority with so few hours of study?), the twentieth century child has hardly more than a half hour of supervised play in school and seldom any supervision (even if furnished a place to play) out of school hours.

The problem of the school day resolves itself into one of making it subserve both the physical and mental needs of the child. The hours of school attendance matter but little if the school activities adequately fulfill this broad purpose. In many schools such a purpose is now gropingly aimed at.—*United States Daily.*

"THREE ACRES AND A SCHOOL"

In England the National Playing Fields Association has taken as its slogan "Three Acres for Every School." This is, as *The London Observer* remarks, a big and bold measure, but a smaller one would "obscure the magnitude of the ulterior aim." It is to repair a defect in the lives of millions due to the fact that industrial civilization has divorced so many people from that life in the open upon which "the grain of the British mind and body" has been nourished for centuries. It is claimed for the climate of Great Britain that it invites men out of doors more days in the year and more hours in the day than any other country. There are more days of dull skies and dankish weather; yet, as Emerson said, the English live "jolly in the open air."

The drawing of increasing numbers into the city without adequate spaces for play breaks for children especially "the law of their kind." They are in danger of losing that freedom of the open air which has been their birthright, and so coming to a state of "national debility and social sulkiness." The plan is to procure a million pounds with which to make a beginning in providing grounds for play.

What England is now realizing to be essential, we of America can the more readily provide. This is not only because of our larger means but also because spaces are still available in most of our communities. The work which reation and Playground Association are doing in promoting both municipal

and private establishment of playgrounds is of immense value to our national health and morale. It is not too much to say that democracy's victories in the industrial and social fields will be won on our playgrounds—and chiefly our school playgrounds.

There is no city in America where the playground problem is more serious than here in New York. It is our duty not only to the children but to the State to see that every possible provision is made through the opening under competent supervision of what school-grounds we have and of adding to them every year. Particularly necessary is the opening of school-grounds for play in the summer. "If the red-breast in a cage puts all heaven in a rage," the cooping up of children in the crowded streets should make us feel an even deeper indignation.

But every city has this problem, and it should be met while the spaces are not so built upon as to make it increasingly difficult, if not impossible, economically to do for our children what England hopes to do for hers.—*New York Times.*

Little Gertrude bought a cake of toilet soap and told the druggist to charge it.

"Who is it for?" inquired the druggist.

"For all of us," replied Gertrude.—*From Children, The Magazine for Parents.*

CHICKENING

By IRMA MORRIS

"Oh, Daddy, what a lot of fish," said little Marian, viewing her Father's catch, with wide-eyed admiration. "I want to go fishing, too."

"You will, when you're a big girl," said Daddy, chuckling her under the chin. But Marian heaved a sigh. It seemed to take a very long time to grow into "a big girl."

At bedtime, Daddy dramatized the fishing expedition for his little daughter, in answer to her insistent, "Show me how you do it Daddy?" And all night long in her dreams Marian tugged at reluctant fish and, after mighty struggles, pulled them triumphantly from the water.

Next morning, as she was going out to play, she saw the magic fishing-line standing on the porch, and fingered it longingly. Oh, if she only dared! No one was about. Mother was busy in the house. She wouldn't hurt it a bit. She would just see how it worked.

. . . Oh, what fun! It wasn't hard at all after you got used to it. She just knew she could catch as many fish as Daddy if Mother would only let her go down to the river. Suddenly, she had an inspiration, and carrying the fishing-line and a piece of bread with which she had expected to feed the birds, she ran over to the chicken-yard. Why, of course, it was a fine idea. She would catch some chicks, just as Daddy had caught the fish. Chicks were just as good to eat as fish, and Mother would be pleased. Marian carefully put a piece of bread on the hook and standing on the stump of a tree to reach it, deftly threw her line over the wire-netting of the chicken-yard. But why wouldn't those stupid chicks bite? Why in the world did they run away? Daddy said the fish bit the worm on the hook. Well, she would try again. Daddy said fishing took lots of patience. Over and over again went the line, and a tired little girl had just about decided she didn't like fishing anyway when the hook suddenly caught in a baby chick's feathers, and the

exulting little fisher girl gave a joyful pull at the line.

Mother was very busy that morning, thankful that her young charge was amusing herself and allowing her to get the work done. So occupied was she that she hardly gave a thought to the little girl, until she heard the excited voice of a neighbor crying, "Mrs. Pierce. Mrs. Pierce, come quick and see what that wicked child is doing."

Mrs. Pierce ran quickly to the window. Horror of horrors! Could that be her Marian, her child, who was always so loving and kind? Actually killing a baby chick!

"Marian, Marian," she shouted, "drop that line at once."

Marian looked up in hurt surprise. But sensing that her Mother's tone was final, she very reluctantly did as she was told.

Mrs. Pierce hastened to give first aid to the chick. "Quiet, now," she said to herself, as she worked over the chicken. "Don't judge without a hearing. See what she has to say. Play fair."

Marian stood by with flushed face, absolutely nonplused and gulping down tears of disappointment. When her Mother took her hand to lead her into the house she burst out, "I was a-chickening. You wouldn't let me go a-fishing like Daddy, so I went a-chickening. Why can't I go a-chickening? You didn't make Daddy put the fish back!"

Immediate comprehension came to Mrs. Pierce. "The poor child," she said to herself. How glad she was that she had said or done nothing that she would have regretted. When they reached their "talk-things-over" chair, Mrs. Pierce pulled Marian into her lap and explained. "You didn't mean to hurt the little chick, did you?" she asked, in conclusion; and a regretful little maid answered a tearful "no."

In the meantime, Mrs. Graham, the next-door neighbor, who had notified Mrs. Pierce of the "massacre," was

waiting to hear Marian's cries. "She'll just have to spank her this time," she said to herself, having been puzzled frequently by Mrs. Pierce's management of her children.

"I punish mine six times as much as you do yours, and yet your youngsters are better behaved than mine," she had often said to Mrs. Pierce. Now, after waiting for some time and still hearing no screams, she could restrain her curiosity no longer and hurried over to her neighbor's. Knocking at Mrs. Pierce's kitchen-door, she stood staring with amazement, for there sat Marian, her face not even tear-stained, busily undressing a doll.

"Mrs. Pierce," she exclaimed incredulously, "You don't mean to tell me you didn't punish that child for doing such a wicked thing?"

Mrs. Pierce bit her lip in annoyance. She disliked to discuss the children's misdemeanors in their presence. But, controlling herself, she said quietly, "I suppose you are referring to what Marian did to the chicken this morning, Mrs. Graham. Marian meant no harm. Her Father had gone fishing yesterday and she thought she could catch chickens in the same way, so she went 'chickening.'"

There was a finality in Mrs. Pierce's tone. Mrs. Graham could say no more. But she found her thoughts continually returning to the incident as she went about her work. She admired Mrs. Pierce's self-control, and she had to admit that it brought results. The Pierce children were habitually happy and obedient. And thinking it over she began to understand. "I wish I could be as fair to my children as Mrs. Pierce is to hers, she thought wistfully. She always allows them to explain and tries to see things from their viewpoint. I am too impatient, I know. I shouldn't have spanked Mabel yesterday when she swept the kitchen floor with her wet broom, and made it all dirty. She meant no harm. She really wanted to help me. And last week, when Stephen came home late from school, I didn't even listen to his explanation before I punished him. I must be more patient and understanding or I will lose my children's confidence. Hereafter when I am tempted to punish them hastily, without listening to explanations, I'm going to say to myself just one word "chickening." Then I will remember that sometimes children have "good intentions" that are misunderstood.—*Children, The Magazine for Parents.*

BLOOD PRESSURE SUBJECT OF SCIENTIFIC MEETING

Blood pressure was the important subject under discussion at the annual scientific meeting of the American Heart Association held in Washington, D. C., in connection with the meeting of the American Medical Association on May 17.

Heart specialists scouted the belief that high blood pressure necessarily is a disease, preferring rather to refer to it as a symptom. Among the causes of high blood pressure which eventually may affect the heart were mentioned bacterial invasions of the body in the form of focal infections such as may be found in infected teeth and tonsils.

Heart disease, it was brought out, is now the principal cause of death in the U. S. and seems to be on the increase. Physicians are in doubt as to what is responsible for this increase, many believing that the responsibility rests upon faster living. Heart disease death statistics show a great increase after

the age of 40. At 30 years the rate is only 40 per 100,000. At 40 years it is 100 and at 90 years it is 7,000. New Orleans ranks first among the cities of the nation in deaths from heart disease with a rate of 321 per 100,000. Albany, N. Y., is second with a rate of 283 per 100,000. The country-wide rate in 1925 was 186 per 100,000 population as compared with 132 in 1900. Dr. James E. Paulin of Atlanta who discussed the subject said that the increase in cities has been greater than in the country.

More deaths from heart disease is one of the penalties people are paying for the increased span of life achieved during the past 39 years, Dr. Henry Albert, Health Commissioner of Iowa, told the Section on Preventive and Industrial Medicine. Heart disease, he said, often comes after attacks of infectious disease, which formerly killed the patient. Now physicians can cure

these acute infections, but they have not learned to prevent the after-effects. Scarlet fever and rheumatic fever are among the worst offenders. They leave behind them a constitution which may be injured in many subtle and undetected ways. The injury suffered by a scarlet fever victim may not come to light for 20 years, when it may reveal

itself in the heart, liver and other organs. About 25 per cent of all deaths from heart disease, he believes, have their origin in rheumatism. The heart disease age is 45 and over, when the weaknesses brought about by the earlier maladies begin to show up.—*Bulletin of the American Heart Association.*

THE OBJECT OF VITAL STATISTICS

By F. M. REGISTER, M.D.

Under the classification of vital statistics or vital bookkeeping we have the registration of births, deaths, marriages and divorces. (In North Carolina marriages and divorces are not included in reports at this time.)

We also have the reporting of sickness from certain diseases. In North Carolina at this time certain diseases are required by law to be reported to the local quarantine officer, and he in turn should report to the State Epidemiologist, State Board of Health.

The United States Census

The United States at ten-year intervals enumerates the population—in other words a census is taken. This census is used for adjustment of representation in legislature and congress; also for levying taxes. There are other uses for the periodical census, social, business, and national protection. First census of North Carolina was made by the United States Government in 1790—this volume, containing names of heads of households living at that time, can be obtained from the Bureau of the Census, Washington, D. C., for \$1.00.

Operation of Vital Statistics in North Carolina

The Legislature of 1913 enacted what is called the Model Vital Statistics Law in North Carolina. There is a local registrar appointed for each incorporated town and for each township. The mayor of the town appoints the local registrar for the town, and

the chairman of the board of county commissioners appoints the local registrar for the township. These appointments are for four years. When a local registrar dies, resigns or moves out of his district some one is appointed for the unexpired term.

The local registrar gets the certificates, copies them into a book. This book of copies is turned over to the register of deeds of the county February 15th each year for the previous year. The original certificates are sent to the Bureau of Vital Statistics on the fifth of each month for the previous month. These certificates are bound in volumes of 500 and indexed, and copies sent to Washington, D. C., Bureau of the Census to be used for statistical purposes.

Certified copies of birth and death certificates can be obtained from the Bureau of Vital Statistics, Raleigh, N. C., for 50c each. By the way the certified copies obtained from the Bureau of Vital Statistics, Raleigh, N. C., are the only legal certified copies that can be had.

The Vital Statistics Law requires that the undertaker or person acting as undertaker shall obtain a permit from the local registrar before burying or removing a body. The permit is obtained by giving the local registrar a death certificate properly filled out.

Uses of Death Registration

The uses of death registration are economic, social, and legal. It is of the greatest value in the settlement of life insurance, and cases where the in-

heritance of property is involved. On the death certificate often hangs the disposition of a fortune. As an example, husband and wife die at practically the same time; the death certificate, if properly filled out, gives the exact hour when each died, and on this depends the disposition of property of last survivor.

The registration of deaths also assists in the detection and prevention of crime. Also furnishes the basis of geneological studies. The statistics based on death records have been of great help in studying diseases, improving the health and lengthening the life of the human race. On the statistical study of death records depends the price you pay for life insurance. This one item alone will pay for all the trouble and expense of death registration.

Birth Registration

As soon as a newborn child enters the world, society's responsibility for his future welfare begins. The doctor, midwife, or person acting as midwife, is morally and legally bound to report this birth within five days to the local registrar. By doing this one of the first obligations to the child is fulfilled.

There is hardly a relation of life, social, economic or legal in which the evidence furnished by an accurate registration of births may not prove to be of the greatest value, not only to the individual, but also to the public at large. It is not only an act of civilization to register births, but good business, for the birth certificates are frequently used in many practical ways. The following are some of the ways in which birth certificates are used:

(1) As evidence to prove the age and legitimacy of heirs;

(2) As proof of age to determine the validity of a contract entered into by an alleged minor;

(3) As evidence to establish age and proof of citizenship and descent in order to vote;

(4) As evidence to establish the right of admission to the professions and to many public offices;

(5) As evidence of legal age to marry;

(6) As evidence to prove the claims of widows and orphans under the widows' and orphans' pension law;

(7) As evidence to determine the liability of parents for the debts of a minor;

(8) As evidence in the administration of estates, the settlement of insurance and pensions;

(9) As evidence to prove the irresponsibility of children under legal age for crime and misdemeanor, and various other matters in the criminal code;

(10) As evidence in the enforcement of law relating to education and to child labor;

(11) As evidence to determine the relations of guardians and wards;

(12) As proof of citizenship in order to obtain a passport;

(13) As evidence in the claim for exemption from or the right to jury and military service.

The Legislature, recognizing the value of death and birth registration, has enacted very exacting laws in regard to death and birth registration, making the penalty rather severe. A fine of from \$5 to \$50 or imprisonment is imposed for the non-performance of this duty.

Case Reporting or Morbidity

In North Carolina the law requires that the following diseases be reported to the county quarantine officer, and he in turn to the State Epidemiologist, Raleigh, N. C.:

Cerebro-spinal meningitis.

Chickenpox.

Diphtheria.

German measles.

Infantile paralysis.

Measles.

Ophthalmia neonatorum.

Paratyphoid.

Scarlet fever.

Septic sore throat.

Smallpox.

Trachoma.

Typhoid fever.

Venereal diseases.

Whooping cough.

Tuberculosis (reported to State Sanatorium, Sanatorium, N. C.)

The State Epidemiologist, by getting all reports and getting them promptly, is in a strategic position to take measures to check a pending epidemic. No lighthouse keeper on a rocky, dangerous coast is charged with a greater responsibility than he who is set to watch the signs of a coming pestilence from the conning-tower of the State Board of Health, but he cannot do anything unless he gets reports of where the trouble exists. The State Board of Health is like a well equipped fire department with the best apparatus and men in the world waiting the word to go. When the fire occurs and no alarm is turned in, the fire spreads because the alarm is not turned in and the fighters know nothing about the fire. In like manner epidemics can occur and spread if cases of disease are not reported. The reporting rests on the shoulders of the attending physician. Of course all cases are not seen by physicians, and all cases seen are not recognized, and all cases are not correctly diagnosed. Of those cases recognized not all are reported promptly, and some not at all.

There is a class of physician so conservative that they wait until "dead" sure of the correctness of their diagnosis before reporting. There are also a number of physicians who are careless and do not report, and there are a few, a very few, who deliberately withhold reports to shield their patients from possible inconvenience, not giving a snap for other people who might be exposed to infection.

It is refreshing to note that the best physicians are reporting the births and cases of sickness they attend. In fact it is almost a barometer of the qualifications of the physician to note his attitude in reporting births and cases of sickness in conformity with the law. Just as you would judge a good citizen by his behavior to his fellowman and the law. If your physician does not stand four square in obeying the law, you had better look him over with an idea of transferring your practice. A person who will break the law for you is just as apt to break the law against you.

The penalty for not carrying out the quarantine law, by either the quarantine officer or attending physician or householder is a fine of from \$5 to \$50 or imprisonment.

A LAY MESSAGE

The whole span of life is the time between two meals—the first and the last.

Birth always occurs before the first meal, and death invariably follows the last meal.

Into the mouth that first meal goes, and into the mouth must go all of the other meals. How can you expect health if you place all of your food into a mouth full of infected and diseased teeth? How can you expect to masticate the regular food that you will eat, from the time you graduate out of the milk business, until you go into real estate, unless you so care for your teeth that you will always have a sufficient number in good working order?

The meals that nourish you are the meals that prolong life and bring contentment as well as accomplishment. If you have an ambition to be an invalid, just neglect your mouth.

Keep your teeth clean. Have the cavities filled when the cavities are small. If you have hopelessly diseased teeth, have them taken out and in due time replace them with bridges or plates.

In the first place, do not encourage mouth diseases by neglect. In the second place, do not let a sentimental attachment for a source of infection keep you from getting rid of any tooth that proper treatment cannot restore to health.

Care of the teeth is just a matter of good common sense.—*Oral Hygiene.*

Billy: "Papa, are caterpillars good to eat?"

Father: "Oh, don't talk about such things at the table."

Mother (getting curious): "Billy, why did you ask that?"

Billy: "I just saw one on papa's lettuce, but it's gone now."—From *Children, The Magazine for Parents.*

HYPODERMIC NEEDLES AND HYPODERMIC SYRINGES SHOULD BE STERILE

The administration of drugs by the hypodermic method is becoming more and more popular every day. Such a plan of giving medicine does not tax the stomach. The medicine gets immediately into the circulation. Drugs to relieve pain and drugs to stimulate the heart and respiration act more certainly and more quickly when given hypodermically, but it should be borne in mind that hypodermic syringes and hypodermic needles that are not clean can and do oftentimes cause infections. A clean tablespoon and a match will boil enough water to sterilize any hypodermic needle or hypodermic syringe. Before the hypodermic is given the person giving the hypodermic should wash his or her hands thoroughly. The skin of the person receiving the hypodermic should be thoroughly washed. Bear this in mind and tell your friends about it. It may save someone a serious infection.

FRIENDLY TALKS FROM LONG- VIEW FARM

Speaking of fire protection leads one naturally to the subject of health protection. This is suggested by the pilgrimage Longview youngsters and their elders are now making to the health authorities for triennial vaccination against typhoid fever. It is certainly nothing less than a crime for the parents of any boy or girl to let the child run the risk of death from typhoid when so simple and inexpensive a treatment will prevent that risk. Nor is it any less important for fathers and mothers to be vaccinated themselves. For the sake of the children who need them as well as for their own sakes, all parents should take this precaution.

Furthermore, while the Longview folks are taking their triennial typhoid vaccination, the Longview collie will get his annual anti-rabies vaccination. Many people have not yet found out that dogs can be vaccinated against rabies and more people should take advantage of the protection to life and health which this policy insures for the family.—*The Progressive Farmer*.

AN ILLITERATE EYE TEST

In a certain section of Western North Carolina where the male inhabitants coming down from a long line of rebellious revenue fighters in the old days who had the reputation of being quick shooters, a school nurse was discussing with a mother her child's defective vision. The mother said: "My father lived to be eighty years old and never wore glasses in his life." "Why, that is remarkable," replied the nurse. "And you mean to say he could read without glasses at that age?" "He did not know how to read," she said, "but he could see the bead on his rifle to the day of his death."

This was a very interesting test to the nurse, especially in view of the fact that the aforementioned old gentleman had the reputation of having been a first class hunter but a peaceable old individual who had never shot at any person in his life; but he could take a squirrel off from his porch as far away as the next man. We would not advise teachers or nurses to adopt this method for testing children's vision, because now and then one of them might get a "bead" on a health officer and so it would be better to stick to the Snellen test.

LIFE EXTENSION VALUABLE

Behold the cash value of living longer than our grandfathers did! The increase in earning power of our population in this generation for men alone amounts to \$2,300,000,000 per year. Accurate data on the earning capacity for women is lacking, but estimates made by statistical experts of the Metropolitan Life Insurance Company put the total increase in earning power since 1901 at \$3,500,000,000.

This gain in ability to earn money has come about as the result of the recent improvement in extension of life, the experts declare. In 1901 a male at birth was considered to have a potential worth of \$7,553, but in 1924 the value of the average baby boy was calculated at \$9,333. The gain of \$1,780 potential value at birth is due to the longer life an individual can now be expected to live with a consequent longer period of earning capacity.—*Science News-Letter*.

FLYING SANATORIUMS

The civil flight surgeon is the man of tomorrow. Aviation medicine is a specialty and only those with special training are qualified to make special examinations. With civilian transport companies carrying both passengers and freight; with the air full of commuters, the civilian physician will need to know aviation medicine. There are opportunities now for him.

There is no doubt that we shall all want to fly. Ernest L. Smith, Emory B. Bronte and Lieuts. Lester J. Maitland and Albert F. Hegenberger tested the radio beacon as a guide to a diminutive goal in the sea to prove it. Lieut. Al Williams is trying to show how fast we can do it, and Lieut. James Doolittle, by his amazing outside loop, has shown how sportively we can fly.

The world is moving on at a great rate toward our getting up over the traffic-choked streets, where there is more room. Our children are going to consider travel by air as safe, perhaps safer, than travel on foot. Moreover, health airships and flying sanatoriums are going to be afloat. One in need of rest and change and ultra violet rays will be able to get them in the air no matter on what noisy and smoky part of the globe he has his habitat.—*Science News-Letter*.

THE DENTIST'S BEST WORK

The cheapest, least painful and best work a dentist does for you is preventing big cavities, toothache and infection by filling small cavities, frequently those you do not know are there.

But if you should have toothache do not run the risk involved in long suffering and abscess. Go at once to your dentist. If extraction is necessary and an anesthetic is used, there is no more danger than at any other time. The anesthetic does not harm the child of a pregnant woman, but continual pain and infection may.

Of course, the dentist should be informed of the patient's condition, as he will give shorter appointments, be especially careful, and, in some cases, may do temporary work which will not take so long but will save the teeth until later.

Right food helps to protect teeth and to build strong teeth for the baby. The crowns of all the baby teeth are formed before birth and the buds of the first permanent ones are started. It is especially necessary that the diet should have plenty of minerals. The baby needs lime for building bones as well as teeth, and this may mean robbing the mother's system. The diet should supply enough minerals for both child and mother.

Milk and milk products, fresh fruits, green leafy vegetables and whole grain foods contain these mineral elements and vitamins so necessary to good teeth and health.

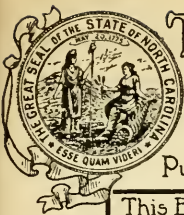
WHEN IT'S FUN TO DRINK MILK

If your child dislikes to drink milk, try making a game of it. The child will probably drink more milk, and, taken under pleasant conditions, it is much more apt to nourish him than when he is forced to drink it. Do not give the child a whole glass of milk at once. Put a tiny glass by his plate and fill it up, asking him to see if he can empty it. Suggest also, that he see how many sips he can get out of it, if he is old enough to count. The other children may be included in the idea, making a sort of contest to see how many little glasses of milk each one can drink, limiting the amount to that which they can comfortably consume. With small glasses they are not apt to drink too much. If the child is old enough put a small pitcher with the rest of the milk beside his plate and let him pour it out himself. When he is interested in pouring it you will be surprised how much more readily he will drink his regular quota of milk.—From "*Children, The Magazine for Parents*."

KILLED HAWK WITH STONE

Mrs. Chapin T. Tyson, of Oakland Township, is the champion thrower of the county. When a hawk flew down last week to help himself to her "biddies" she flung a stone at him and hit him, breaking his back. He is a dead hawk, and now what have you to say about a woman's not being able to hit what she throws at?—*The Chatham Record*.





The Health Bulletin

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NOVEMBER, 1927

No. 11

Buy Christmas Seals Fight Tuberculosis



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THIS ISSUE TUBERCULOSIS NUMBER

We are this year following a custom of many years in devoting either the November or the December issue of the BULLETIN each year almost exclusively to the subject of tuberculosis. As in the past several years, the material used in the BULLETIN this month is supplied by Dr. L. B. McBrayer, managing director of the North Carolina Tuberculosis Association, in collaboration with the officials of the State Sanatorium for Tuberculosis.

COUNTIES ORGANIZED AGAINST TUBERCULOSIS

One-fourth of the State of North Carolina is officially organized against tuberculosis. Twenty-five counties are selling Tuberculosis Christmas Seals on a county-wide basis, using the seventy-five per cent of the funds remaining in the local community for preventive tuberculosis work. Ten of these counties have perfected county tuberculosis associations that are actively engaged in combating tuberculosis. These twenty-five counties are: Anson, Buncombe, Burke, Cabarrus, Caldwell, Cumberland, Davie, Edgecombe, Forsyth, Franklin, Gates, Greene, Guilford, Harnett, Hertford, Lenoir, Moore, Nash, Rowan, Stanly, Transylvania, Wake, Wayne, Wilkes, and Wilson.

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PARAGRAPHS!

Had you ever noticed when a physician enumerates the clinical symptoms of childhood tuberculosis, how nearly he follows the symptoms produced by malnutrition?

Had you noticed when a physician writes or speaks about chronic fatigue in children, how closely he follows in his description of its important features, the clinical symptoms produced by undernourishment?

Had you ever thought that undernourishment almost always produced bad posture—muscles too weak to hold the various parts of the body erect?

Of course children as well as adults have tuberculosis when they are in a fine state of nutrition, and frequently, though not always, the patient is in such fine physical condition that he has tuberculosis and gets well of it without ever having the classical symptoms.

Dr. L. W. Elias, and other noted pediatricians, believe that if a mother eats proper food during pregnancy, and the child is properly nourished, there will be no decay of the teeth. Look at your child's teeth. Better grow strong, healthy children than pay a dentist's bill—but if you have neglected giving to your child this birthright that every child is entitled to, it will be absolutely necessary for you to have your dentist keep your child's teeth in repair, and you should consult him about twice a year, under such circumstances.

Dr. Edward R. Baldwin of Saranac Lake, was awarded Trudeau Medal for meritorious work in the field of tuberculosis research, at the last meeting of the National Tuberculosis Association.

Dr. Chas. J. Hatfield, past president, and for several years Managing Director of the National Tuberculosis Association, presented the following resolution, among others, to the National Tuberculosis Association in regular session, which was unanimously adopted.

"Tuberculosis is often associated with under-nutrition and all steps leading to the discovery and proper treatment of undernourishment in children and adults contribute to the prevention of tuberculosis."

ON WASHING THE HANDS

WHY?

1. To protect your own health.
2. To protect the health of others.
3. To make your hands more attractive.

WHEN?

1. Just before each meal.
2. Just before handling fruit or anything you eat between meals.
3. Just after going to toilet.
4. At any other time when they are soiled.

HOW?

Wash your hands thoroughly with warm water and soap, not forgetting the finger nails.

A GOOD BIRTHDAY PRESENT

Go to your Doctor before he has to come to you.

The best birthday present you can give yourself is to go to your physician and have him give you a careful, thorough and complete physical examination. Do this every time you have a birthday.

What are streptococci?

They are the little germs which often infect our tonsils, and teeth, sometimes giving us pneumonia, rheumatism and heart disease. To prevent these troubles, and many others including tuberculosis and cancer, have a careful, thorough and competent physical examination by your physician and dentist on your birthday.

Dr. H. Longstreet Taylor, at one time a tuberculosis specialist in Asheville now prominent in this work in the state of Michigan and conducting a private sanatorium at Minneapolis, is President of the National Tuberculosis Association.

GOOD HEALTH RESOLUTION

I will always try to remember that there is nothing more wonderful in the world than my own body and that it is worthy the very best care that I can give it.

Tuberculosis is losing its premiership as a killer of our people.

Only one-fourth as prevalent as in 1880.

1,376,716 lives saved from death by tuberculosis in the United States in last quarter of a century.

By ALLEN K. KRAUSE, M.D.
Baltimore, Md.

PREVENT AND CURE TUBERCULOSIS IN CHILDHOOD

We are now beginning at the right place to eradicate tuberculosis—with the children.

With the work among undernourished children by the North Carolina Tuberculosis Association; the correction of dental and tonsil defects by the State Board of Health, and private physicians; the tuberculosis clinics for children by the Extension Department of the State Sanatorium, and the Children's Building at State Sanatorium, real progress is being made, but there is much yet to be done.

Tuberculosis affects everybody in one way or another. Tuberculosis is everybody's fight.

WE HAVE ERADICATED TUBERCULOSIS FROM THE CATTLE OF OUR STATE! WHAT ABOUT OUR PEOPLE? WHICH IS THE MORE IMPORTANT, OUR CATTLE OR OUR CITIZENS?

All honor to the State Department of Agriculture, who, with the United States Department of Agriculture co-operating, and some coöperation in the way of small appropriations by the County Commissioners, and likewise co-operation upon the part of the citizens of our State who own cattle, have eradicated tuberculosis from all the cattle in our State—a great and fine piece of work this, and we take off our hats to the State Department of Agriculture and offer three loud, prolonged, lusty cheers.

The same can be done for our people if we WILL to do it. The same principle is involved, to wit, **FIND ALL THOSE WHO HAVE TUBERCULOSIS AND PREVENT THEM FROM INFECTING OTHERS.** Of course we don't want to kill those of our citizens who have tuberculosis, so we must treat them until we get them well, or if already too ill to be cured, and due to our lack of real interest in the lives and health of others a goodly number are, we must give them humane treatment until they die. We have gone half the way, let's finish the job.

THE RUBAIYAT OF OH! HOW-WELL-I-AM

Hygeia by BEATRICE SLAYTON HERBEN

A frightened shepherd told a Moslem priest

That all his herd grew jazzy at a feast
On coffee seeds. The Moslem took

some beans

And made a drink. The drinking never ceased!

Some kick against the kick which oftentimes floats

In coffee cups. I know a few "tee-totes."

Let grown-ups drink their coffee if they must.

They should not let the kiddies be the goats!

Children grow stronger on milk than they do on coffee.

Who was it that spread flu today?

Not I.

Who opened up his mouth and sneezed?

Not I.

Who spat upon the prone and passive ground

The seeds of human pain? In truth, not I!

An epidemic, with its whirlwind sword,
Must first be loosed upon the passing horde

By one who's wide of mouth and blind of eye

And hard of heart!—How long, how long, O Lord?

Those who cough, sneeze and expectorate without shielding their face are responsible for infectious diseases.

NORMAL WEIGHT CHILDREN DO HAVE TUBERCULOSIS BUT OH! YOU UNDERWEIGHTS

In Dr. Hudson's paper printed elsewhere, the percentages given show the following facts:

Normally nourished children do have tuberculosis but only one case was found out of 276 normal weight children examined. There were twenty times as many children who had tuberculosis in the ten to fourteen per cent underweights and the number increased consistently until those 25 per cent and over showed thirty-five times as many cases of tuberculosis as the normal group and this is only half as many cases as found in the 25 per cent and over underweights in the work of the National Tuberculosis Association in Cattaraugus County, New York.

BOW LEGS AND KNOCK-KNEES

There is no need for a child to be bow-legged or knock-kneed. It is a matter of faulty nutrition. Any good doctor can give the parent proper directions about this and the specialists in the disease of children, who call themselves *Pediatrists*, are especially keen on this thing. Take your child to your physician for examination every six months.

THE WOMEN'S CLUBS OF NORTH CAROLINA are using their powerful influence in the fight against tuberculosis.

The State Federation has a sub-department of tuberculosis and Mrs. Charles R. Whitaker of Southern Pines is the efficient State Chairman. Each and every local club has a chairman of health and this chairman and her committee study the subject and present programs at stated intervals.

Among other visible concrete things done by the local clubs through their chairman and committee, is the sale of tuberculosis Christmas seals, from Thanksgiving to Christmas. They have been quite successful with this, and with the 75 per cent left in their hands have done many worthwhile things.

The Raleigh Woman's Club has conducted the annual seal sale from the beginning. Among the many worthwhile things they have done with the money derived from the seal sale are: Establish the first tuberculosis clinic in Raleigh. Establish public health nursing in Raleigh, which was at the same time the first public health nursing ever done in North Carolina, and which was the forerunner of the establishment of public health nursing in the State with a state director at its head under and financed by the North Carolina Tuberculosis Association. The Raleigh Woman's Club is now financing a large number of patients at the State Sanatorium.

The Tuberculosis Christmas Seal Sale the first year brought in \$3,000.00; in 1926 it brought in more than five million dollars.

The first flight to Europe was made under prohibition.

The National Tuberculosis Association is doing one of the finest pieces of coöperative research ever known. Thirteen university laboratories, the United States Laboratory of Hygiene, the laboratory of the United States Department of Agriculture, and two commercial laboratories are all working on the tubercle bacillus in an effort to find a cure for tuberculosis,—all financed by the sale of Tuberculosis Christmas Seals.

LACK OF SLEEP A REAL MENACE

By DR. HAVEN EMERSON

Sleep, I suppose, is the health habit in which there is the greatest violation today. I don't suppose there has been any time when so many young people were being starved of their normal health for lack of sleep. It comes with the modern distortion of the night into daytime in the search for recreation and entertainment. There is only one group in the community in which tuberculosis is still an increasing cause of death and that is the group of young women between the ages of fifteen and thirty-five. All the other people in the United States, men at all ages and women at other than those ages, are showing a constantly reducing death rate from tuberculosis.

Tuberculosis is a very sensitive index of errors in the manner of life. In New York in particular, and in other parts of the country similarly, tuberculosis is still an increasing cause of death in young women.

In studying cases of tuberculosis in that group, and between those ages, it is evident there are a number of different causes. One of them which does not affect the men is that girls are apt to do housekeeping, housework, sewing and such things in their out-of-work hours. Then the demands upon them, spiritually, emotionally, of recreation are a great deal more fatiguing than they are upon the men. And there is certainly an error in the habits of young women, young people in general now, because of the fashion of late dancing and recreation.

We must do everything we can with quiet, gentle persuasion to provide some kind of alternative period for recreation which does not steal so much of the night. Youth can stand a great deal. They will come in smiling the next morning from the stimulating effect of a happy period of recreation. They are sure it was good for them because they enjoyed it. It was happy, congenial. They felt they were getting on, released from the inhibitions of formal occupation and they were free in

having a lovely time. It didn't make any difference whether it was ten o'clock, twelve o'clock or two o'clock when they came back. They were on the job and apparently healthy and well and at work the next day.

But I firmly believe, personally, from tuberculosis observations and in other medical fields, that lack of sleep is the chief cause of under-nourishment among children in our city schools now, and it is a serious and contributory cause of this increasing tuberculosis rate among young women.

Now, with regard to the children, it is rarely found that lack of means of buying food, or lack of intelligent use and supply of food to children, is the chief cause of under-nourishment of children under school age. It is usually that those children have been taken out of their age and have been allowed to live the life of their elders. They have accompanied their elders to evening entertainments; they have gotten up and gone to bed with their elders. They have often insufficient space to live separate lives, in bed and in their own rooms. And children, in the most instances, have been possible to be retrieved from under-nourishment simply by giving them a normal child's sleep of ten hours or more.

There is a very decided difference in people's capacity for sleep and their need for it. People who are well nourished need less sleep than people who are under-nourished. One of our biggest jobs is to get the girls through the period of artificial limitation of weight which is so popular just now. Cutting out sleep is a way of reducing weight. They have found that out. Trust them to get the easiest way to a social objective. But a few extra hours of being awake and active require an extra meal if weight and health are to be maintained.

Sleep cannot be sacrificed without having serious penalties which usually do not express themselves in physical disability but in deteriorating endur-

ance, in deteriorated concentration, and in lack of nervous stability. Those are the things that aren't recordable statistically. You can't express the effect of lack of sleep in death rates or sickness rates, but you only have to study growing children and young boys and girls growing up, to see that there is a decided deterioration in their ability to handle their human job, if they cut off their sleep as much as is very common nowadays.

Other things being equal, we usually get along best with three meals a day. The wellnourished, normal adult works better and keeps in better health on three meals a day, a substantial breakfast before starting to work, food approximately five hours after beginning work and then food at the end of the day's work. You will commonly find disturbance in digestion and nutrition when people vary markedly from that routine. I doubt if any person can consistently get along without breakfast. A girl who starts to work with a cup of coffee and fails to get a break in the morning for food takes a real hazard with her digestion.

This idea of keeping ten pounds below your normal weight should be corrected. Last winter it was a matter of comment among the practicing physicians of New York that the young girls who were taken sick did very badly because they had so starved themselves that they hadn't the normal resistance. Many girls of the fashionable set said they had to have this slim figure. They had gotten to the point where they were below the recovery line and when they were taken with pneumonia, mastoiditis or some other infection they were overstrained and had no comeback, no resistance. The girl who starts to work on an empty stomach is losing one of the best assets of a good digestion. Her digestive powers are best in the morning and if she has no appetite in the morning it is probably because she has misused herself the night before. To come home after a day's work and take the hearty meal of the day when you are most tired is about the best way of being sure you won't have any appetite for breakfast.

REST

L. B. McBRAYER, M.D., F.A.C.P., Southern Pines, N. C.

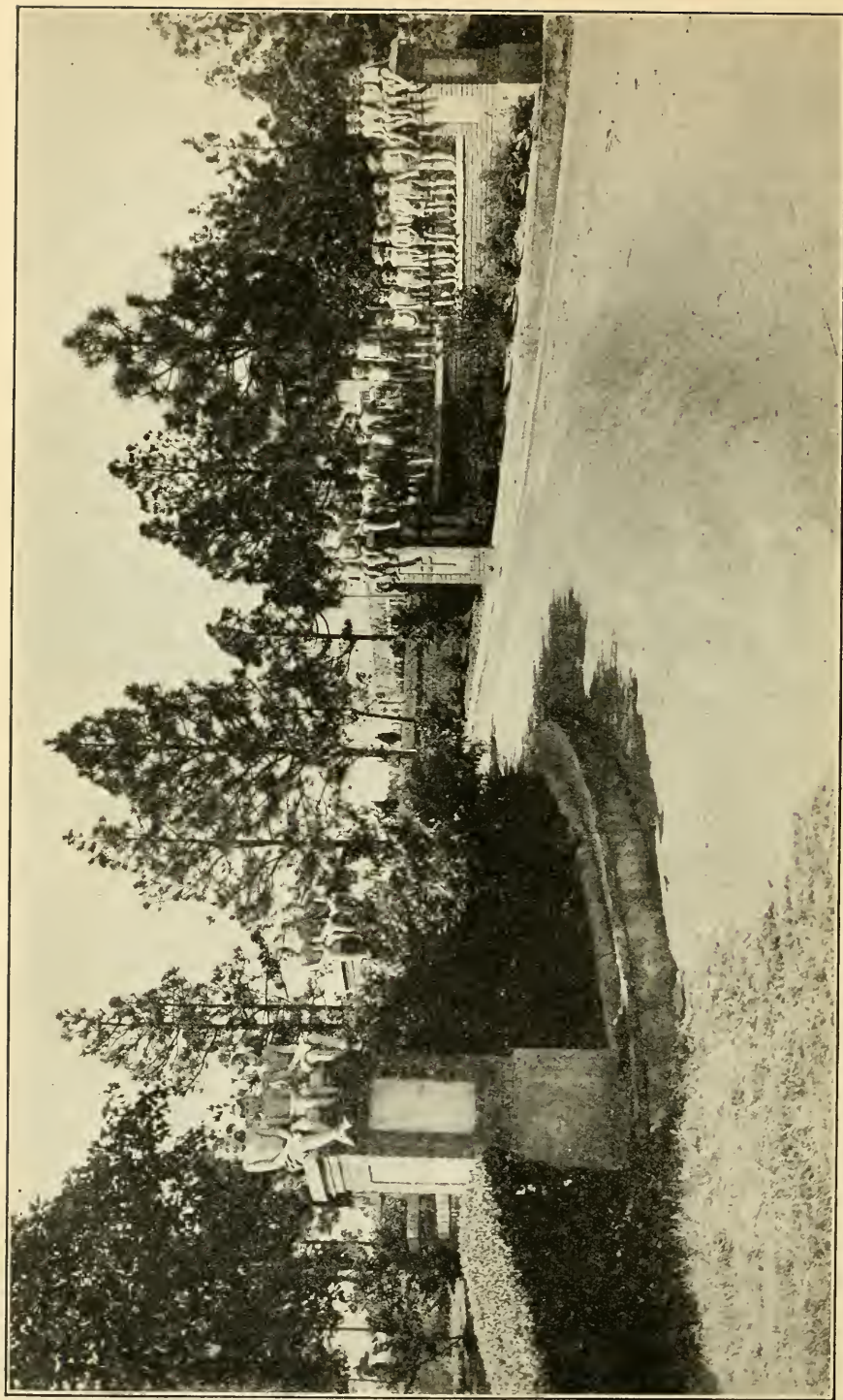
**President's Address, Southern Tuberculosis Conference, Mayflower Hotel,
Washington, D. C.**

The frequency and glibness with which the average layman rolls, as a sweet morsel, and broadcasts the words, "rest and good food are all that is needed in the cure of tuberculosis," not even considering the physician as a party to the cure, and my belief that few physicians and no laymen have a real conception of the therapeutic meaning of the word "rest," are my reasons or excuses for selecting this subject. It is proper to add that the importance of rest in the biology of life, as well as in the cure of tuberculosis, make the subject both appropriate and important, and certainly makes an excuse or apology for presenting it unnecessary.

Those who have formed the habit of seeing with their eyes are familiar with

the fact that all animals and almost all things require rest in order to perform the ordinary processes of life which they are supposed to perform.

Consider your radio: It is activated by a battery which must be recharged from time to time just as the human machine must be. One minute your radio is going along serenely, performing satisfactorily the function for which it was created,—the next minute it is gone, nothing coming in. We say it's dead. One familiar with the operation of a radio will tell you the battery is exhausted. Let the battery rest for a few days, then tune in and you will hear people speak around the world. Beware however, this battery rejuvenated, recharged by rest, won't last



ONE OF THE MAIN ENTRANCES—STATE SANATORIUM—CHILDREN FROM THE CHILDREN'S BUILDING GETTING THE BENEFITS OF THE SUNSHINE

very long, and must soon be recharged in the way made and provided.

Observe the peach tree: (FIGURE 1). That tree was once covered with green leaves through which it breathed. In the springtime it was covered with beautiful blooms, which were soon followed by luscious fruit. The sap, which is the circulating blood of the tree, coursed its way from the roots carrying the proper elements of food from the earth up the trunk and out the limbs to the leaves, where it received oxygen, and on to the buds which quickly matured into the peach—a fruit fit for the king and queen. But not so now—the fruit is gone, the leaves have fallen and lie withered upon the ground, and the sap courses its way no more. The horticulturist says the tree is dormant; we say *it rests*. And this rest for the tree covers a period of many months out of the year, all taken at one time. While the human body requires almost as much rest as the tree, it should be taken in appropriate amounts each twenty-four hours, and when totalled amount to four to five months out of the twelve.

Take the human cell,—no matter whether it is a cell from mucus membrane, skin, nose, or brain: Stimulate the normal body cell, put it to work and it slightly enlarges, just as do the muscles of this Ederle person, who trained her muscles and endurance until she swam the English Channel. Continue this stimulation and it enlarges further. This cell needed rest after the first stimulation, after the continued stimulation it had to have rest or disaster would follow. We refuse to allow the cell to rest and continue the stimulation and we now find a diminution in the size of the cell. With continued stimulation death ensues.

When a local infection or injury takes place in any part of the body, an immense number of soldiers of defense known as phagocytes are rushed to the point of invasion, and they undertake to destroy the enemy. Their method of warfare is to engulf the infective micro-organism in their own bodies, but these phagocytes, after they have done a certain amount of combat, must have rest in order to dispose of the enemy forces

they have captured. If they are required to continue the combat without any rest they will soon become dead.

The medical advisers to our war forces in France were aware of the importance of rest for their troops, and so when our boys went over the top and put to rout the enemy, they were, after a certain time, brought

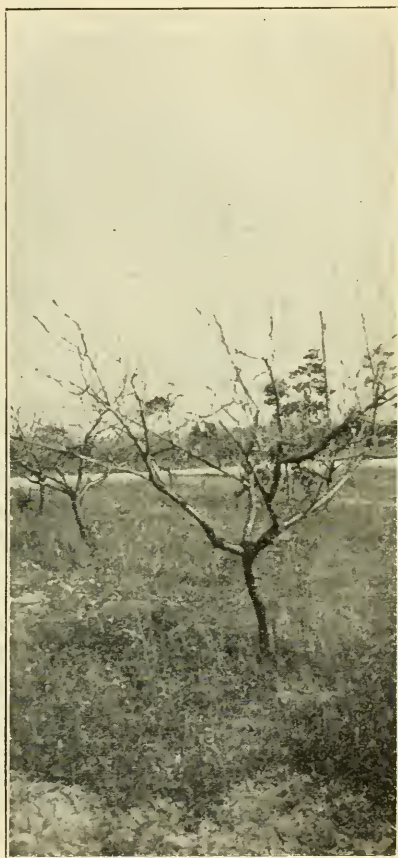


FIGURE 1

back behind the lines for rest, and fresh troops were sent in to take their place.

Every one is familiar with the necessity of putting a broken bone at rest in order that nature may build it together again, and unless this is done we do not get a bony union at all, but a cartilaginous union instead, and if it is a long bone we get a useless

limb. The splint the surgeon applies to a fractured bone is for the purpose of giving it complete rest.

Physicians, with much success in certain selected cases, have attempted to give a tuberculous lung rest by what we call pneumothorax. Many physicians have seen a hopeless case with death staring him in the face, bloom out into what would appear to a superficial observer as perfect health in a few weeks. The surgeons have gone a step farther and are now using thoracoplasty in selected cases, for the same purpose and with good results. Both ideas are to place the lung at rest.

In early cases, and in many other cases, these treatments are not indicated and we must then resort to the next best method, and that is rest in bed.

The heart beats about fifty million times a year, and continues fifty, sixty, and sometimes seventy years, which means the heart beats five billion times in a life time.

This in itself is a most wonderful phenomenon, and nothing has ever been invented that approaches it. At first thought, you might say the heart does this without stopping or resting, and this would be most wonderful indeed were it true, but it is not. Each contraction of the heart is followed by a rest. The average duration of a cardiac cycle, that is, the contraction, which sends the blood out into the arteries, and the rest period during which time the chambers of the heart are filled again, is, in the adult normal man about 1.2 seconds, and the time occupied by work or contraction is a little less than one-third of the cycle, while the rest period is a little more than two-thirds. So that if a person should live to be one hundred years old, the heart would contract or work about thirty years of that time and rest about seventy years. Of course, the circulation of the blood is continuous, but that does not come within our purview at this time.

The exchange of gases in the lung takes place constantly of course, and oxygen is fed to every cell in the body continuously, but the act of inspiration and expiration is only done about sixteen to eighteen times per minute when

a normal, healthy person is in the recumbent posture, and the lungs which are quite active in inflation and deflation and the muscles used in inspiration and expiration rest the remainder of the time.

Now, when one takes exercise or walks slowly about his room, or even stands, his heart beats and his inspiration and expiration are increased compared with the heart action and breathing while in the recumbent posture, and the more violent and prolonged the exercise the more the increase. So, rest in the recumbent posture gives the minimum amount of work to the lung and therefore the maximum amount of rest.

But there is also another element of good in the rest treatment, perhaps equal to and mayhap more important than the rest to the lung just mentioned. A physician not only instructs his patient that he must rest in the recumbent posture, but he must dismiss all disturbing things and thoughts from his mind. Reading is sometimes interdicted and he must rest both his mind and his body. During the proverbial rest hour, talking is prohibited, the patient is instructed to keep his eyes closed, and sleep is desirable. This is intended to rest the body cells as heretofore referred to, to the end that they may become stronger and build up that thing we call resistance which is so necessary to recovery from tuberculosis.

A clinical demonstration of what I have been trying to tell you is found in the picture (FIGURE 2). In a certain school in North Carolina there were about seven hundred pupils, and 33 $\frac{1}{3}$ per cent of them, or a total of 233 children, were ten per cent or more below normal weight for their height and age according to the Baldwin-Wood height-weight-age table, which is considered by those who should know as approximately the correct figures more nearly than any other, and we have found practically all children ten per cent or more underweight by this standard, clinically ill. The National Tuberculosis Association has found in the Cattaraugus County work eight per cent of the underweight children to have clinically demonstrable tubercu-

losis. In North Carolina we have been able to find only six per cent or a little less. There are many diseases and things that will produce this underweight, and likewise there are many diseases, many more than we once knew, including criminality, and perhaps many more than we know now, produced by malnutrition. All these children were given a thorough physical examination, all diseases and defects found were corrected, and splen-

This turned the trick, and they began to gain in weight. From February to the close of school in 1925, the percentage was reduced to only eighteen. You will also note that at the beginning of school in September, 1925, the percentage had increased to twenty-four per cent, due no doubt to the interference with the routine for food and rest established in school, but at the end of the school year, June, 1926, the percentage of undernourished chil-

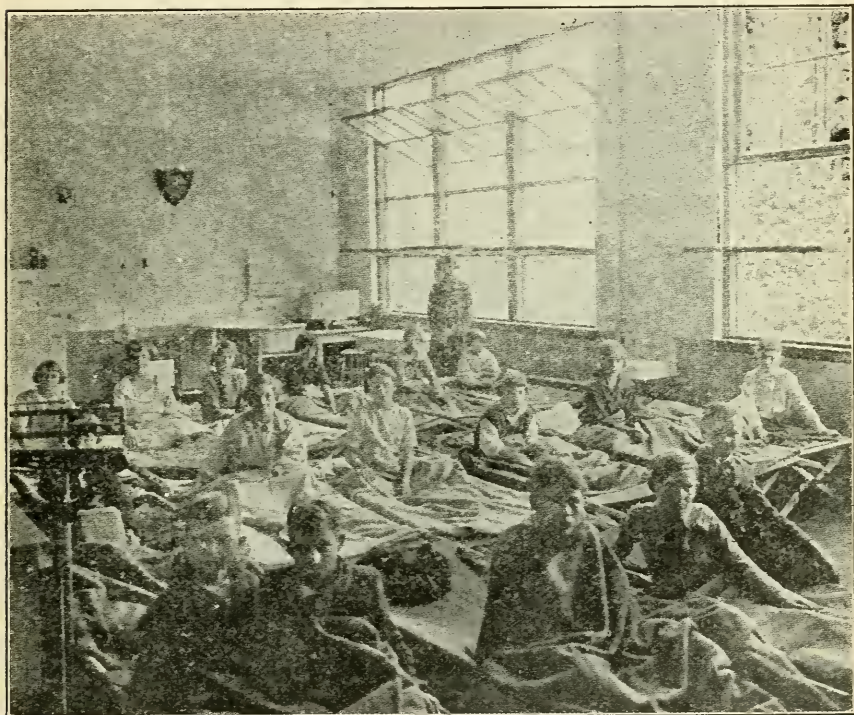


FIGURE 2.—REST PERIOD—OPEN AIR SCHOOL, DURHAM, N. C.

did coöperation by the school authorities, teachers, parents, and children was had. The children had the right kind and quantity of food at proper intervals, and they slept the allotted time at night. Many children gained in weight, alertness, and mental acuity promptly, and a goodly number failed to gain. The rest period was then instituted as you see, except that absolute quiet was required. Sleep was suggested, and after a few days nearly all of them went to sleep promptly.

dren was reduced to four per cent, which, I should say, is a most satisfactory result.

The matter of growing strong, healthy humans is the most important thing demanding the attention of America today, and the proper nutrition of each and every generation is one among the most important factors in reaching this much desired eminence, and one of the important factors in the proper nutrition of the body is REST.

A PRELIMINARY REPORT ON THE STUDY OF TUBERCULOSIS IN 7841 SCHOOL CHILDREN

P. P. McCAIN, M.D., S. E. LEE, M.D., and P. A. YODER, M.D.,
Sanatorium, N. C.

During the present school session the Extension Department of the North Carolina Sanatorium, in coöperation with the local health departments and school authorities, has been conducting a study of tuberculosis among the school children in the primary and grammar grades in various parts of the State.

The three groups of children selected as being most likely tuberculous are:

1. All known contacts.
2. All 10 per cent or more underweight.
3. All with suspicious symptoms whether underweight or not.

After the selection of the children for the study the first step is the giving of the tuberculin test to each child. On all those showing a positive test the following procedures are taken:

1. A history of exposure, including family history.
2. A history of past illnesses.
3. A history of present symptoms and habits.
4. A general physical examination including the chest.
5. An X-ray examination of the chest.

After the X-ray films are read and all the information concerning the patient is reviewed, the children are classified as not tuberculous, suspicious or tuberculous. The tuberculous are further classified as clinical or latent. For any abnormal conditions which may be found the children are referred to their family physician for treatment and advice.

The form of tuberculosis usually found in school children is the tracheo-bronchial type or, as it is frequently called, "hilum tuberculosis." Lack of time will not permit a detailed discussion of its pathology. Suffice it to say that tracheo-bronchial tuberculosis represents a primary infection in the lungs, the primary focus usually being

a very small lesion situated somewhere in the periphery of the lung with a secondary involvement through the lymph channels of the regional pulmonary and tracheo-bronchial lymph nodes.

The parenchymatous lesion—the usual pulmonary form of tuberculosis as found in the adults—is very rarely seen in children.

More frequently tuberculous adenitis, especially cervical adenitis, is found, and very rarely some of the other forms of tuberculosis requires a careful weighing and evaluation of all possible data. The first essential for a positive diagnosis is a positive tuberculin test.

In the absence of a positive tuberculin test a definite diagnosis of tuberculosis in a child is rarely ever justified. A negative test rules out tuberculosis.

A positive tuberculin test proves the presence of a tuberculous infection, that somewhere in the body there are live tubercle bacilli, but does not prove that the child has tuberculosis. Only a small percentage of positive reactors will be found to have clinical tuberculosis. Of 7,005 school children given the tuberculin test so far this year, 1,702 (24.3 per cent) showed a positive reaction. Studies have been completed on only 3,103 of these, and of this number 68 (2.2 per cent) were diagnosed as clinically tuberculous. Of the 3,103 cases completed 734, or 23.6 per cent, gave a positive reaction. Of these positive test cases 68 (or 9.3 per cent) were clinically tuberculous.

The report of the State Board of Health of Massachusetts, by Chadwick and others, on thirty thousand school children from all walks of life is the most comprehensive on record. He found that 28.5 per cent showed a positive test.

The giving of the tuberculin test is very simple and it can easily be interpreted by any physician. The Extension Department of the Sanatorium furnishes the tuberculin for the test in capillary tubes, with full directions for its use and interpretation free, and we are anxious for all the physicians in North Carolina to avail themselves of the great help to be derived from its use. Every child who has suspicious symptoms of tuberculosis should be given the test. If it is negative tuberculosis can be ruled out. If it is positive the child should be given the

peevish and irritable; a delayed recovery from some other disease such as measles, whooping cough or influenza, without any other complications to explain the delay. Fever may or may not be present, and it may be of the afternoon type, or it may be irregular or continuous. The normal variations of temperature in childhood are so varied, however, that the presence of fever is of much less diagnostic significance than in adults. Juvenile tuberculosis is usually not accompanied with such symptoms as cough, tendency to frequent colds or hoarse-



FIGURE 3.—VIEW FRONT OF CHILDREN'S BUILDING AND THE CHILDREN AT NORTH CAROLINA SANATORIUM

benefits of all available diagnostic procedures to determine whether or not clinical tuberculosis is present. We repeat that the test is easily given, that it is easily interpreted and that the tuberculin can be had free.

There are no characteristic symptoms of childhood tuberculosis. The following are those more frequently found: undernourishment, an actual loss of weight being rather unusual, but a failure to grow and gain weight being very common; fatigue, or tiring easily; a lack of energy, the child showing a tendency to avoid forms of amusement requiring much exertion; a tendency to nervousness or to be

ness. Pleurisy and hemoptysis very rarely occur, and the latter when present indicates, of course, the adult or pulmonary form of the disease.

As stated above, the symptoms found in childhood tuberculosis are not pathognomonic, but may be caused by a number of conditions, as diseased tonsils and adenoids, sinusitis, hookworm disease, pyelitis, cardiac disease, et cetera. It is also true that not infrequently cases of tracheo-bronchial tuberculosis demonstrable by the X-ray have no symptoms causing the patient to feel sick.

To an even greater extent is it true that there are no characteristic physi-

cal signs to be found in the chest in childhood tuberculosis.

Such physical signs as anemic mucous membranes, pale skin, poorly developed and flabby muscles are more frequently found in the tuberculous child, though the appearance of ruddy health does not exclude tuberculosis.

The physical examination and laboratory examinations in the study of childhood tuberculosis are of more real value in the discovery of other abnormal conditions which might explain the symptoms than in demonstrating the presence of a tuberculous

The X-ray is of greater importance in making an accurate diagnosis of childhood tuberculosis than in the usual pulmonary type of the disease. The characteristic densities of tracheo-bronchial tuberculosis are a small focus situated at the periphery rarely larger and often smaller than a pea, and nodules due to the involvement of the regional pulmonary and tracheo-bronchial glands which drain the area of this primary focus. The X-ray also has its definite limitations. Many of the lesions are not sufficiently dense to cast a shadow on the film and this is especially true

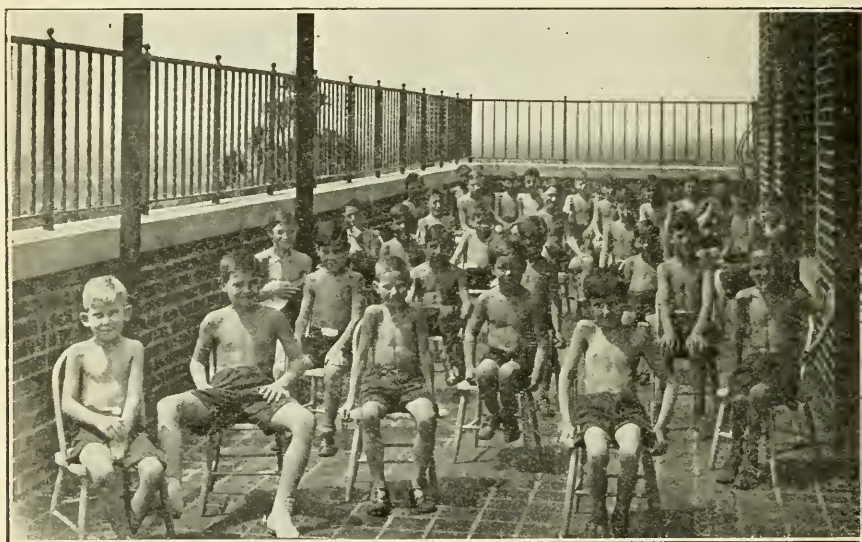


FIGURE 4.—CHILDREN'S BUILDING, NORTH CAROLINA SANATORIUM. BOYS TAKING SUNBATH ON THE TERRACE.

HELIO THERAPY OR SUNRAYS IS IMPORTANT IN THE TREATMENT OF CHILDHOOD TUBERCULOSIS AS INDEED IT IS IN THE PROPER NUTRITION OF THE CHILD.

lesion. The discovery of diseased tonsils and otitis media, heart disease, or the discovery of pus in the urine, intestinal parasites or their ova in the stool, or of malarial parasites in the blood through laboratory examinations should indicate the need of caution before diagnosing tuberculosis. If there are no such defects or if the suspicious symptoms persist after such defects are corrected, it is much more likely that the case is one of tracheo-bronchial tuberculosis.

of the early lesion. Within the hilum region also the lesions are surrounded by so many other structures which cast heavy shadows, the spine, sternum, heart and large blood vessels, that they are frequently obscured. This is especially true when only a single antero-posterior film is taken. This difficulty is overcome in large part if oblique as well as antero-posterior films are made. Stereoscopic antero-posterior films are really essential for a satisfactory X-ray study of childhood tuberculosis. In the school clinic we were only able to

secure a single antero-posterior and an oblique film, the necessary equipment for stereoscopic films not being available except in Greensboro, where we were exceedingly fortunate to get both stereoscopic and oblique films made by Dr. Joseph Shohan. Since Dr. Shohan is to present his findings in the next paper to this section I will not discuss this phase of the subject further.

It is by the careful weighing of the evidences obtained by all the various aids that an accurate diagnosis of tracheo-bronchial tuberculosis can be

lowed in the wake of the tracheo-bronchial form), when not properly treated, offers a very poor prognosis in children.

The first and probably the most important step in the treatment of childhood tuberculosis is to prevent further infection of the child by locating the source of the infection, usually some member of the family or servant in the home, and to make sure that the child will not continue to get massive doses of tubercle bacilli. If this is done and if, in addition to the usual rest, hygienic and dietetic treatment of



FIGURE 5.—SCHOOL HOUR FOR CHILDREN TAKING TREATMENT AT THE NORTH CAROLINA SANATORIUM

made. The general practitioner who does not have access to an X-ray is certainly justified in making a strongly probable or tentative diagnosis of tuberculosis in a child who has a positive tuberculin test and suspicious symptoms, without any other discoverable condition to explain such symptoms. If he also obtains a history of close exposure and the tuberculin test is strongly positive, the evidence is practically conclusive.

Fortunately the prognosis in the tracheo-bronchial form of childhood tuberculosis is good under proper treatment. The pulmonary form of the disease, however (which frequently fol-

lows adults, heliotherapy or the quartz light treatment is employed, childhood tuberculosis can usually be cured. At the North Carolina Sanatorium we now have a modern building for children where special attention is given their treatment.

The value of the school tuberculosis clinic consists not alone in the discovery of the cases of clinical tuberculosis in the school at a stage in which they can be cured and before they become infectious. Many adult subjects of tuberculosis who are throwing off bacilli in the homes from which the positive tuberculin test cases come are discovered; the positive tuberculin test

proves to them that they are infecting their children, and it is easier to get them to practice the necessary precautions. The demonstration of the fact that one out of four children who are materially underweight have tuberculous infection, furnishes a warning to both parents and teachers to safeguard the health of the child and arouses interest in the whole subject of health

No. given tuberculin test—white.....	6761	
No. given tuberculin test—colored.....	1080	7841
<hr/>		
No. reactors—white.....(23.69%)	1602	
No. reactors—colored.....(24.26%)	262	(23.79%) 1864
<hr/>		
Negative cases.....	(76.21%)	5977 7841
<hr/>		
Physical examinations.....		1720
Cases X-rayed.....		1320

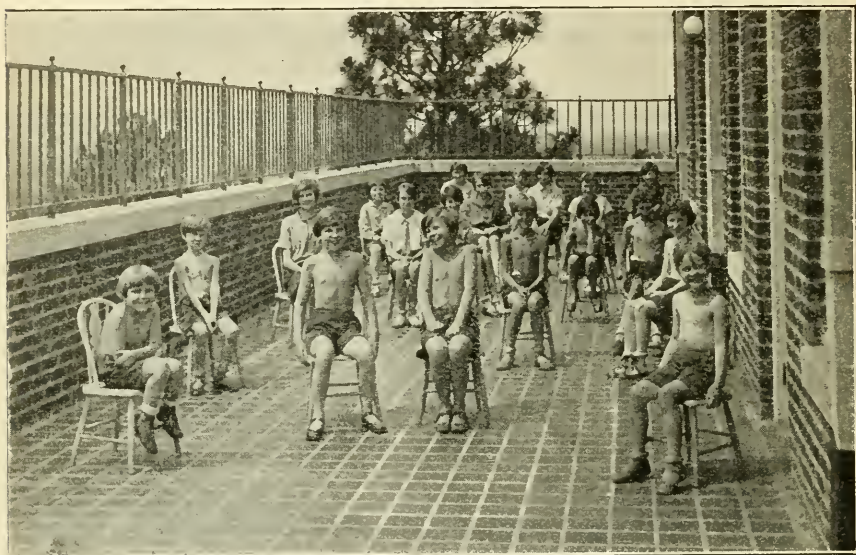


FIGURE 6.—TREATING CHILDREN AT THE NORTH CAROLINA SANATORIUM. GIRLS TAKING A SUNBATH ON THEIR TERRACE

and disease prevention. A re-weighing of the children three months after the clinic in one community showed that they had made an average gain of five and one-half pounds.

The hearty cooperation of the local health and school authorities has been most encouraging to us. The enthusiastic interest in the health of their pupils of all school superintendents, principals and teachers, with whom we have been brought in contact through the clinics, is to us a most encouraging evidence of the splendid progress in health work which is being made throughout our State.

The following is a summary of the children's tuberculosis clinics conducted by the Extension Department, North Carolina Sanatorium:

Positive reactors with demonstrable tuberculosis—white.....	116	(1.71%)
Positive reactors with demonstrable tuberculosis—colored.....	35	(3.24%)
<hr/>		
Total reactors with demonstrable tuberculosis.....	151	(1.92%)
<hr/>		
No. suspicious cases.....	304	(3.87%)
No. positive reactors not X-rayed and probably negative.....	400	(5.5%)
No. positive reactors not having demonstrable tuberculosis.....	865	(11%)

These last percentages are of whole number given the tuberculin test.

Percentage of reactors showing demonstrable tuberculosis—white.....	7.24%
Percentage of reactors showing demonstrable tuberculosis—colored.....	13.40%
Total percentage of reactors showing demonstrable tuberculosis.....	8.10%

Dr. Henry D. Chadwick of Westfield, Mass., covering the same class of cases as those examined by the Extension Department of the State Sanatorium, found the following:

In 10,098 children examined, 2,659 or 28.3 per cent were positive to the tuberculin test, while in North Carolina only 23.79 per cent have been found positive to the tuberculin test, a difference in our favor of 5 per cent.

In a demonstration by the National Tuberculosis Association in Cattaraugus County, about 13 per cent of adults examined were found to have tuberculosis and 5 per cent of all children ex-

amined were found to have tuberculosis, while in our State only 1.92 per cent were found among the children examined.

In the work done in Cattaraugus County, New York, by the National Tuberculosis Association, the number of cases found in children 10 per cent or more under weight was 6.6 per cent. The following are the percentages of cases for the various degrees of underweight, beginning with 10 per cent:

10% to 14%	3.6% had tuberculosis
15% to 19%	8.8% had tuberculosis
20% to 24%	20.9% had tuberculosis
25% and over	5. % had tuberculosis

THE SCHOOL TUBERCULOSIS CLINIC FROM THE STANDPOINT OF THE HEALTH OFFICER

By C. C. HUDSON, M.D., City Health Officer, Greensboro

Beginning the latter part of November, 1926, representatives of the Extension Department of the North Carolina Sanatorium, working with the City Health Department of Greensboro, undertook the study of our school children to determine the prevalence of tuberculosis infection and how many school children needed treatment other than they were receiving at the present time. The clinic was conducted jointly, the State Sanatorium supplied a clinician and read the X-ray plates, and the City Health Department made arrangements for the examination of the children through nurses and assisted during examinations and financed the X-ray work which were cared for by Dr. Shohan, a local X-ray expert.

The clinic afforded an excellent opportunity for centering the attention of our people upon the importance of tuberculosis in childhood. It has been of especial importance in impressing upon the public the importance of having children who are not developing as they should given a careful physical examination. We are having better cooperation from the parents in the correction of defects, such as underweight, diseased tonsils and other things which

are hindering the development of our children.

The study has given us new light on certain phases of our tuberculosis work. In deciding which children should be examined, Dr. McCain thought it would be well to examine:

First—All white children who were as much as ten per cent underweight for their height.

Second—All negro children who were below normal weight.

Third—All children who gave history of exposure to tuberculosis without reference to their condition.

Fourth—Any child who showed symptoms of tuberculosis, such as chronic cough, lassitude, over-fatigue, etc.

One thousand four hundred and sixty-two children were examined of which 332 gave a positive test, thus indicating an infective rate of 22.8 per cent of the number examined. The white rate was 20.9 per cent, the colored 25.7 per cent. The infection rate of 22.8 is much higher than we would probably find if we examined all the children in school as we had all our children who had been exposed to tuberculosis in this group and also all the underweights and those showing symptoms of tuberculosis.



A GROUP OF POSITIVE TUBERCULIN REACTORS FROM ONE OF OUR SCHOOL CLINICS WHO CAME TO SANATORIUM FOR X-RAY PICTURES OF THEIR CHESTS

It is interesting to note that the percentage of reactors increases in the higher grades of school. The following table shows the number of children tested by grades and the percentage of reactors which were found:

REACTIONS BY GRADES

Grade	Tested	Positive	Per cent
First grade.....	286	44	15.0
Second grade.....	216	38	17.6
Third grade.....	181	37	20.4
Fourth grade.....	250	65	26.0
Fifth grade.....	184	46	25.0
Sixth grade.....	114	24	21.0
Seventh grade.....	116	38	32.7
Eighth grade.....	14	4	28.6

In connection with the examinations it is very interesting to note that 85.7 per cent of those exposed to tuberculosis gave a positive test. This shows that the test is undoubtedly very reliable and also explains, when taken in connection with the weight of children, the reason why there is a tendency for children who have lived in houses with tuberculosis to develop the disease later in life.

EXPOSED TO TUBERCULOSIS

a. Reaction

Total.....	84
Positive.....	72
Negative.....	12
Per cent positive.....	85.7

b. Weight

	Number	Per cent
Normal.....	13	15.5
0-9% underweight.....	27	32.1
10% or more underweight.....	44	52.4

Most of the reactions read were of the one plus type. We would judge from the type of reaction in our positive cases that perhaps there was some error in reading the reaction among the colored children and perhaps more of our reactions were of the two plus variety than the table would indicate.

TYPE OF REACTION

	Number	Per cent
One plus.....	219	68.0
Two plus.....	89	27.7
Three plus.....	13	4.0
Four plus.....	1	0.3

TYPE OF REACTION OF POSITIVE CASES

	White	Colored	Total	Percent
One plus.....	4	11	15	32.6
Two plus.....	14	10	24	52.2
Three plus.....	4	2	6	13.0
Four plus.....	0	1	1	2.2

A study of reactors by weight groups was made, but as we have not been able to make a complete check on this work we think some error was made in the report regarding the percentage of reactors in some of the weight groups. However the figures which we have would certainly indicate that the more a child is underweight the more is it likely to show tuberculous infection.

PERCENTAGE FACTORS BY WEIGHT GROUPS

	Number Tested	Number Reactors	Per cent Positive
Normal.....	275	33	12.0
0-9 underweight.....	263	71	27.0
10-14 underweight.....	496	95	19.2
15-19 underweight.....	179	40	22.4
20-25 underweight.....	65	21	32.3
Over 25 underweight.....	22	8	36.4

X-ray examinations were made of 311 of the 333 children which gave positive reactions; 176 white; 135 negro. These were classified by Dr. McCain and Dr. Shohan as follows:

WHITE

Negative.....	109
Suspicious.....	45
Positive.....	22
Needing Sanatorium care.....	11
Possibly needing Sanatorium care.....	7
Sanatorium care not needed.....	4

COLORED

Negative.....	77
Suspicious.....	34
Positive.....	24
Needing Sanatorium care.....	12
Possibly needing Sanatorium care.....	3
Sanatorium care not needed.....	9

Not all those classed as positive cases were underweight as we would expect them to be. One of the cases which was classed as a positive case has been given some additional rest and extra diet and has shown a very rapid gain in weight and general physical improvement, having already come up to a normal weight line.

4. The study has shown us that while our infection rate is apparently much lower than we formerly thought it would be, we still have many people exposed to tubercular infection and a better safeguard should be thrown around our tubercular cases, especially around the children who live in houses with cases. Of the 22 positive cases recommended for Sanatorium care fourteen gave a history of having been closely exposed to the disease.

5. Not only should these children who have been infected with the tuberculosis germ be brought up to an average gain in weight for their height,

Weight	Needing Sanatorium Care		Possibly Needing Sanatorium Care		Not Needing Sanatorium Care		Total
	White	Colored	White	Colored	White	Colored	
Normal.....	0	1	1	0	1	3	6
0-9 underweight.....	0	5	1	1	1	2	10
10-14 underweight.....	4	3	3	1	1	1	13
15-19 underweight.....	4	1	1	0	1	1	8
20-24 underweight.....	0	1	0	0	0	0	1
25% or more.....	1	0	0	0	0	0	1

As you have undoubtedly noticed, the study has revealed several problems:

1. Sanatorium care for those needing it. Some of these will undoubtedly not need to remain at the Sanatorium very long while others would need longer care.

The State Sanatorium now has a children's building where white cases can receive attention and the colored department can also care for the negro children, unless it has filled recently. In Guilford County we hope in the near future to have facilities for caring for our white children who have active trouble. After the children return from the Sanatorium it will be necessary to keep them under observation for years if best results are to be obtained.

2. Additional safeguards should be thrown around those positive cases not needing Sanatorium care and also all cases classed as suspicious. These must be studied again in the near future.

3. The remainder of our children showing a positive reaction must have additional protection so that they will not develop into active cases.

but also all children who are underweight should receive attention. We have various measures for doing this, such as notices to parents in regard to the child's weight, visits from our nurses to instruct the parents in regard to having the children examined by the family physician, which works in many cases. Instructive literature is also of assistance to the nurses. Open-air rooms in school buildings are being used in many places for children who are underweight. Hot lunches are provided in most of our schools, and are undoubtedly of assistance. Nutrition classes for children who are underweight are of decided assistance in correcting the underweight condition and teaching mothers how to care for their children. In a number of places the children who are underweight, especially those living in homes of tubercular patients, are segregated in one school, which would seem to be the ideal method of caring for these children, as they could receive, in addition to the instruction, extra nourishment, sun baths or other therapeutic measures advised by the physician.

THE NORTH CAROLINA TUBERCULOSIS ASSOCIATION

Interests Itself in HEALTH EDUCATION

By MISS THERESA DANSDILL, Director

1. Number of Crusaders enrolled for the school year 1926-1927, 124,413.

2. Number of 1st and 2nd grade pupils given daily health habit instruction, 12,000.

3. Number of individuals reached through health talks March 1st, 1926, to March 1st, 1927, 96,942.

4. Cities and towns using the Modern Health Crusade:

Airlee	Concord	Hickory	Pinetown
Albemarle	Conway	Hillsboro	Pores Knob
Ansonville	Cooper	High Point	Potecasi
Arden	Davidson	Hobgood	Princeton
Asheville	Deep Run	Hollister	Prospect Hill
Aurora	Denver	Holly Springs	Purlear
Bahama	Dover	Horse Shoe	Raeform
Badin	Durham	Iron Station	Ransomville
Bachelor	East Flat Rock	Jacksonville	Ready Branch
Bath	Efland	Johns	Reddis Branch
Barnardsville	Elkin	Johnston	Richfield
Belhaven	Elm City	Kernersville	Ringwood
Benson	Emma	Kinston	Rockwell
Benham	Ernul	LaGrange	Ronda
Biltmore	Erwin	Landis	Rocky Mount
Black Creek	Fairview	Laurel Hill	Roaring River
Black Mountain	Ferguson	Laurinburg	Rougemont
Bladenboro	Flat Rock	Leicester	Rosemary
Boomer	Fletcher	Lenoir	Rural Hall
Brewers	Forest City	Lewisville	Salisbury
Bridgeton	Four Oaks	Lexington	Sand Hill
Brevard	French Broad	Lincolnton	Selma
Bryson City	Garner	Littleton	Sharpsburg
Burlington	Gatesville	Lucama	Sherrill's Ford
Call	Gibson	Maiden	Sims
Candler	Goldsboro	Misenheimer	Smithfield
Carrboro	Grace	Micro	Spindale
Cary	Granite Quarry	Montreat	Spurgeon
Castalia	Greenville	Morrisville	Stanfield
Cerro Gordo	Halls Mills	Moravian Falls	Stanley
Champion	Haw Creek	McGrady	Stantonsburg
Charlotte	Hays	Mt. Olive	Stokesdale
China Grove	Hazelwood	Mt. Ulla	Summitt
Claremont	Heathville	Nashville	Swannanoa
Clayton	Hendersonville	New Bern	Thelma
Cleveland	Hendrix	New Castle	Thomasville
Clemons	Hertford	New London	Tillery
		Newton	Tobaccoville
		North Wilkesboro	Traphill
		Norwood	Troy
		Oakley	Tuxedo
		Oakboro	Uppongo
		Oak City	Valley Springs
		Pantego	Vale
		Pfafftown	Vanceboro
		Pine Level	Venable
		Pikeville	Wagram
		Pink Hill	

City	Percentage 10% or more underweight in 1925	Percentage 10% or more underweight in Oct., 1926
Asheville	28%	12%
Durham	32%	18%
Salisbury	46%	22%

Does Intensive Nutrition Work Pay?

Cities and towns carrying on intensive nutrition programs:

Albemarle	Jackson
Arden	Kernersville
Asheville	LaGrange
Bryson City	Lexington
Burlington	Nashville
Burnsville	Oxford
Cary	Pomona Mills
Charlotte	Raeform
Concord	Raleigh
Dover	Rougemont
Durham	Salisbury
East Durham	Selma
Efland	Smithfield
Gastonia	Wadesboro
Graham	Washington
Greensboro	Waynesville
Greenville	West Durham
Hendersonville	Wilkesboro
Hertford	Wilmington
Hickory	Wilson
Hillsboro	Winston-Salem

From September, 1926, to January, 1927—1400 children in the Durham schools who were 7 per cent or more underweight achieved the marvelous record of graduating from the 7 per cent underweight classification.

Salisbury has now reduced its percentage from 46 per cent of children 10 per cent or more underweight to 12 per cent.

Miss Betty White was given a year's leave of absence from East Carolina College to assist in the school health program. She conducted classes in Asheville, Burlington, and Salisbury. Her work was received with enthusiasm, and we believe the school health program in these cities was far better because of her influence and instruction.

NATIONAL PENNANT WINNERS

280 North Carolina Schools Won National Pennants Last Year Because of Superior Work in Health Education

WILL YOUR SCHOOL BE A PENNANT WINNER THIS YEAR?

SCHOOL	PLACE	GRADE	TEACHER
Flat Creek	Asheville	1 B	Miss Sue Council
Montford	Asheville	1 B	Miss Carrie Wagner
Montford	Asheville	6 B	Miss Eugenia Harrison
Montford	Asheville	7 A
Montford	Asheville	7 B	M. Riggs
Park Ave.	Asheville	3 B	Mrs. Jane W. Troller
Aycock	Asheville	3 B	F. Simpson
Aycock	Asheville	4 A	Miss Addie Lou Hudson
Aycock	Asheville	4 B	Mrs. E. M. McConnell
Aycock	Asheville	5 A	M. L. Riddle
Ashland	Asheville	4 A	Miss Irene Logan
Ashland	Asheville	4 B	Miss Irene Logan
Orange Street ..	Asheville	1 B	Miss Frances Suttle
Orange Street ..	Asheville	3 B	Miss Gertrude Mears
Orange Street ..	Asheville	4 A	Mrs. C. J. Roberts
Vance	Asheville	1 B	Miss Irene Hall
Vance	Asheville	3 B	Mrs. Biggerstaff
Vance	Asheville	5 B	Miss B. Branch
Newton	Asheville	5 B	Miss Aileen Ward

NATIONAL PENNANT WINNERS—CONTINUED

SCHOOL	PLACE	GRADE	TEACHER
Bath	Bath	2	
Bath	Bath	5	Miss Mildred Butler
Bath	Bath	6	Mrs. C. W. Brown
Belhaven	Belhaven	3	Mrs. George Cooper
Belhaven	Belhaven	4	Mrs. M. R. Bullock
Belhaven	Belhaven	5	Mrs. M. E. Glover
Belhaven	Belhaven	6	Mrs. Walter O'Neal
Belhaven	Belhaven	6 B	Miss Alice Hackett
Belhaven	Belhaven	7	Miss Mary K. Ellison
Corbin	Concord	3	Miss Ruby Walden
Corbin	Concord	4 B	Bonte Loftin
Primary	Concord	3 B	Miss Ruby Cline
Mineral Springs	Winston-Salem	3 A	Mrs. Craven
Mineral Springs	Winston-Salem	5 B	Miss Poindexter
Mineral Springs	Winston-Salem	4 A	Miss Rawley
N. Primary	Winston-Salem	3 B	Miss Elizabeth Norman
N. Primary	Winston-Salem	4 A	Miss Esther Hudson
N. Grammar	Winston-Salem	6 B	Miss Virginia Lorance
N. Grammar	Winston-Salem	7 B	Miss Inez Carter
East School	Winston-Salem	3 B	Miss Sallie Farrar
East School	Winston-Salem	Special	Miss Bessie Barnhardt
East School	Winston-Salem	4 A	Miss Leona Newton
East School	Winston-Salem	4 A	Miss Augusta Wright
East School	Winston-Salem	4 B	Miss Maytorce Walton
Belew Creek	Belew Creek	1 and 2	Mrs. Parsons
Belew Creek	Belew Creek	2 and 3	Mrs. McAdams
Belew Creek	Belew Creek	4 and 5	Miss H. E. Cook
No. 2	Concord	3	Miss Clemmie Long
No. 2	Concord	4	M. Misenheimer
Fayetteville Road	Durham	1 and 2	Miss Sudie Barbee
Fayetteville Road	Durham	3 and 4	Mrs. O. L. Barbee
Fayetteville Road	Durham	5, 6, and 7	Miss Winnie Jones
Rougemont	Durham	1	Miss Clarice Fletcher
Rougemont	Durham	2 and 3	Miss Mabel Parker
Rougemont	Durham	4 and 5	Miss Annie Satterfield
Hillandale	Durham	1 and 2	Miss Mamie E. Johnson
Holt	Durham	1	Mrs. Katherine Talbutt
Holt	Durham	2 and 3	Miss Onie Carrard
Holt	Durham	4 and 5	Miss Dora Shaw
Holt	Durham	6	Miss Mae Stancill
Holt	Durham	7	Miss Nannie Tillery
Reeds	Lexington	4, 5, 6, 7	Miss Eunice Grubb
Thomasville	Thomasville	2	Miss Effie Hicks
Thomasville	Thomasville	3	F. B. Headen
Thomasville	Thomasville	3 A	V. Ayers
Thomasville	Thomasville	3 A	R. Harville
Thomasville	Thomasville	3	B. Norment
Thomasville	Thomasville	3 B	B. McCorkle
Thomasville	Thomasville	4	Miss Helen Jones
Thomasville	Thomasville	4	Miss Katherine Moore
Thomasville	Thomasville	4 A	E. MacKenzie
Thomasville	Thomasville	4 B	G. Moore
Thomasville	Thomasville	5	G. Norris
Thomasville	Thomasville	5 B	Miss Ruth Boyle
Colored	Thomasville	5 and 6	Lillian D. Taylor
Rural Hall	Rural Hall	3	M. Smith
Rural Hall	Rural Hall	4	Mrs. J. C. Colley
Rural Hall	Rural Hall	5	Miss Ruby Sapp
Rural Hall	Rural Hall	6	Miss Pennell
Rural Hall	Rural Hall	7	C. Mitchell
Clemmons	Clemmons	1	Miss Pinlie Patterson
Clemmons	Clemmons	3 A	Miss Ona Taylor

NATIONAL PENNANT WINNERS—CONTINUED

SCHOOL	PLACE	GRADE	TEACHER
Clemmons	Clemmons	3 B	M. Griffith
Clemmons	Clemmons	4	E. Crews
Clemmons	Clemmons	5 A	M. E. Tunstall
Clemmons	Clemmons	5 B	Mrs. W. O. Causey
Clemmons	Clemmons	6	Miss Carrie Fitzgerald
Clemmons	Clemmons	7	Miss Pearl Tezler
Sedges Garden	Sedges Garden	4	Miss Lula Reid
Sedges Garden	Sedges Garden	5	Mrs. Hines
Hanes	Hanes	5	Miss Cunningham
Vienna	Pfafftown	3	Miss Mamie Pfaff
Vienna	Pfafftown	4	Miss Frances Conrad
Vienna	Pfafftown	5, 6, 7	Miss Grace Boose
Lewisville	Lewisville	2	Miss Margaret Fulton
Lewisville	Lewisville	3	Miss Zelda Yelton
Lewisville	Lewisville	4	Miss Carrie Sprinkle
Lewisville	Lewisville	5	Miss Dorothy Long
Lewisville	Lewisville	6	Miss Anita Long
Lewisville	Lewisville	6 A	Miss Myrtle Wagoner
Lewisville	Lewisville	7	Miss Mabel White
Oldtown	Oldtown	3 A	E. Glenn
Oldtown	Oldtown	3 B	Mrs. N. Butner
Oldtown	Oldtown	4	N. Butner
Oldtown	Oldtown	5 A	Miss G. Cowan
Oldtown	Oldtown	5 A and 6 B	Miss Bertha Herman
Oldtown	Oldtown	6 A	Mrs. F. C. Whittington
Kernersville	Kernersville	3 A	Miss Ethel Bradshaw
Kernersville	Kernersville	4 A	Miss Lillian Doby
Kernersville	Kernersville	4 B	M. Newby
Kernersville	Kernersville	5 A	Miss Elloe Grier
Kernersville	Kernersville	5 B	E. Stames
Kernersville	Kernersville	6 A and 6 B	Miss Catherine Fleetwood
Old Richmond	Tobaccoville	3 B	Miss Elz Davis
Old Richmond	Tobaccoville	3 A and 4 B	Miss C. Coolsby
Old Richmond	Tobaccoville	4 A	Mrs. F. Beaver
Old Richmond	Tobaccoville	5	Mrs. F. Hatton
Old Richmond	Tobaccoville	6	Mrs. L. B. Mock
Walkertown	Walkertown	3	Miss Louise Moir
Walkertown	Walkertown	4 B	Miss I. K. Strader
Walkertown	Walkertown	4 A and 5 B	Miss Lena Bailey
Walkertown	Walkertown	5 A	Miss Ruth Petree
Walkertown	Walkertown	6 A	H. R. Hall
Walkertown	Walkertown	6 B	Miss Mozelle Fisher
Valley Hill	Valley Hill	3	Mrs. Evelyn Smith
Valley Hill	Valley Hill	4, 5	Mrs. Mae K. Justus
Valley Hill	Valley Hill	6	Barnette Pittillo
Valley Hill	Valley Hill	7	Mrs. Ethel Brookshire
Flat Rock	Flat Rock	6 and 7	Miss Della Garren
East Flat Rock	East Flat Rock	4 A	Mrs. L. A. Blair
East Flat Rock	East Flat Rock	4 B	Miss Martha Goodrich
East Flat Rock	East Flat Rock	5	Mrs. A. M. McWhirter
East Flat Rock	East Flat Rock	6	Miss Reba Field
East Flat Rock	East Flat Rock	7	Miss Lillian Wentz
Aurelian Springs	Littleton	5	Verlina Crawley
Scotland Neck	Scotland Neck	4 A	N. Lamb
Scotland Neck	Scotland Neck	4 B	Miss Eliz Josey
Scotland Neck	Scotland Neck	5 A, 6 B	Mrs. H. H. Hyman
Scotland Neck	Scotland Neck	5 B	Miss Bessie L. Alston
Scotland Neck	Scotland Neck	6 A	Miss Annie Dunn
Tillery	Tillery	5	Mrs. M. W. Parkhan
Hawkins Chapel	Thelma	5, 6	Mary Berryman
Halifax	Halifax	4	
Halifax	Halifax	5	

NATIONAL PENNANT WINNERS—CONTINUED

SCHOOL	PLACE	GRADE	TEACHER
Halifax	Halifax	6	
Glendale	Kenly	3	E. Tyson
Oak City	Oak City	4 and 6	T. Jenkins
Potocasi	Potocasi	4	Miss Nellie Pearce
Nashville Rural	Nashville, R. 2	Rural	Miss Annie Crawley
Dortches	Dortches	6	Miss Jennie Alston
Carrboro	Carrboro	3	Miss Agnes Andrews
Carrboro	Carrboro	4	Mrs. L. R. Sturdivant
Carrboro	Carrboro	5	Mrs. W. H. Umstead
Efland	Efland	6, 7	L. E. Sykes
Hillsboro	Hillsboro	Rural	B. Roberts
Hillsboro	Hillsboro	3 A	Mrs. H. H. Baldwin
Hillsboro	Hillsboro	3 B	Mrs. Patterson
Hillsboro	Hillsboro	5	Miss Agnes Lloyd
Hillsboro	Hillsboro	5 A	Mrs. Allen Walker
Bethel	Hertford	4, 5	Mrs. Alethia Hill
Snow Hill	Chapanoke	Rural	Miss Martha Saunders
Henderson	Salisbury	6	B. B. C. Kesler
Innes	Salisbury	1	Miss Julia Blauvelt
Innes	Salisbury	1	Miss Gladys Bolt
Innes	Salisbury	1	Miss Johnnie Heilig
Innes	Salisbury	1	Miss Bulah Lyerly
Innes	Salisbury	1	Miss Nell Joyner
Innes	Salisbury	2	Miss Elgie Hocutt
Innes	Salisbury	2	Miss Ellen Nash
Innes	Salisbury	2	Miss Sue Lee Keown
Innes	Salisbury	3	Miss Clara Perry
Innes	Salisbury	4	Miss Elizabeth Archer
Innes	Salisbury	4	Miss Mabel Taylor
Innes	Salisbury	4	Miss May Martin
Innes	Salisbury	4	Miss Katie McKennon
Innes	Salisbury	5	Miss Annie Lee Yates
Innes	Salisbury	5	Miss Phoebe Trepler
Innes	Salisbury	5	Miss Eula Bell Farmer
Innes	Salisbury	6	Miss Blanch Ingram
Innes	Salisbury	6	Miss Pauline Peeler
Innes	Salisbury	6	Miss Katherine Carnes
Innes	Salisbury	6	Mrs. Know Patterson
Vance Street	Hamlet	3	Miss Bonnie Muse
Vance Street	Hamlet	4 A	Miss Marie Langston
E. Albemarle	Albemarle	4	Mrs. Daisy Anderson
E. Albemarle	Albemarle	H. S.	I. I. Kellum
Dana	Henderson	5, 6	Miss Evelyn Matson
Dana	Boone	5	A. Clark
Walnut Street	Goldsboro	2 A	L. Cooper
Walnut Street	Goldsboro	2 B	E. Hummell
Walnut Street	Goldsboro	3 A	Miss Mavis Evans
Walnut Street	Goldsboro	3 B	V. J. Britt
Virginia Street	Goldsboro	4 A, 4 B	A. Suther
Grammar	Goldsboro	6 A, 6 B and 6 C	Miss Christine Bridger
Grammar	Goldsboro	7 B	H. Judd
Elm City	Elm City	4, 5, 6	Miss Katie Whitley
Stantonsburg	Stantonsburg	5	S. Forehand
Stantonsburg	Stantonsburg	6	Miss Louise Wright
Stantonsburg	Stantonsburg	6	Miss Louise Godwin
St. Mary's	Lucama	4, 5, 6	Miss Lama Beville
Sims	Wilson	4	Miss Glenna Tripp
Sims	Wilson	5	Miss Etta Hester
Sims	Wilson	6	R. E. Long
Rook Ridge	Wilson	5	Miss Eugene Britt
Rook Ridge	Wilson	6	Miss Dolly L. Lewis
Margaret Hearne	Wilson	4 A	E. Kea

NATIONAL PENNANT WINNERS—CONTINUED

SCHOOL	PLACE	GRADE	TEACHER
Margaret Hearne.....	Wilson.....	4 B.....	Miss Bessie Saunders
Margaret Hearne.....	Wilson.....	4 B.....	Miss Mildred Doxey
Margaret Hearne.....	Wilson.....	5 A.....	Miss Elizabeth Butler
Margaret Hearne.....	Wilson.....	5 B.....	Mrs. Ray Armstrong
Margaret Hearne.....	Wilson.....	6 B.....	F. Skillman
Margaret Hearne.....	Wilson.....	6 A.....	I. Carraway
Wilson.....	Wilson.....	4 A.....	Mrs. F. G. Anten
Wilson.....	Wilson.....	4 B.....
Wilson.....	Wilson.....	5 A.....
Wilson.....	Wilson.....	5 B.....
Wilson.....	Wilson.....	6 B.....
Frederick A Woodard School.....	Wilson.....	6 A.....
Holly Grove.....	Clinton.....	Rural.....	Miss Maude Rainey
Mitchell Home.....	Misenheimer.....	1 and 2.....	Miss Orpha Shaw
Mitchell Home.....	Misenheimer.....	3 and 4.....	Miss Kathleen Loop
Mitchell Home.....	Misenheimer.....	5 and 6.....	Miss Ollie Mae Daniels
Mitchell Home.....	Misenheimer.....	7.....	Miss Mabel Edgerton
E. Albemarle.....	Albemarle.....	2.....	Mrs. L. R. Furr
E. Albemarle.....	Albemarle.....	3.....	Miss Grace Krik
E. Albemarle.....	Albemarle.....	5.....	Mrs. Baxter Boggan
E. Albemarle.....	Albemarle.....	6.....	Mrs. O. J. Sikes
E. Albemarle.....	Albemarle.....	7.....	Mrs. R. R. Ingram
E. Albemarle.....	Albemarle.....	1 A.....	Mrs. D. M. Reeves
E. Albemarle.....	Albemarle.....	1 B.....	Mrs. I. L. Hudson
E. Albemarle.....	Albemarle.....	2.....	Miss Gladys Ingram

IS YOUR CHILD READY FOR SCHOOL

"To every parent the health of his child is of first importance. The school is endeavoring to help to put this idea into practice. The school must, however, fail in a large degree without the coöperation of the home."—JOHN TIGERT, *U. S. Commissioner of Education*.

THE TREND IN EDUCATION

In former years little or no thought was given to the question, "Is my Child ready for School?" When he was of school age he was sent to school if he was able to go. Neither parent nor teacher gave thought to the things that could be done to make the child well-prepared to go to school.

REPEATERS

There are thousands of repeaters in the first grades in North Carolina this year because the child had uncorrected remediable defects of eye, ear, nose, throat and teeth. Had these corrections been made in the pre-school years the

child would have been given his chance for the highest achievements.

The following questions prepared by the Bureau of Education will help parents to know if their child is or is not ready for school.

1. Is my child defective physically or mentally?
2. Is he growing?
3. Is he well-nourished?
4. Does he droop?
5. Does he limp?
6. Are his eyes right?
7. Can your child hear well?
8. Is his skin clean?
9. Does he breathe through his nose?
10. Has your child good teeth?
11. Is his throat healthy?
12. Are his face and lips a good color?
13. Is his breath sweet?
14. Has he swollen neck glands?
15. Has he a well shaped chest?
16. Are his abdominal walls strong?
17. Does your child have good posture?
18. Are his limbs straight?
19. Has he any speech defects?

20. Does he have involuntary nervous twitching?

A physician can answer these questions for the parent. In several of our best health departments in North Carolina pre-school clinics have been held. If every parent of a pre-school child would take advantage of these clinics the number of repeaters in the first grades in our schools could be reduced to a minimum within a few years.

People never know how careful they can be until they have children or white shoes.

In biblical times the swine full of devils ran over a cliff instead of a pedestrian.

Yet if all lived as wisely as the doctors advise, the doctors would starve to death.



FIGURE 7.—IS YOUR CHILD READY FOR SCHOOL?

GREATER GAINS AMONG YOUNG MEN IN TUBERCULOSIS DECLINE

STATISTICAL BULLETIN

Metropolitan Life Insurance Co., September, 1927

In the May number of the *Statistical Bulletin* we spoke of the sharply declining death rate from tuberculosis and called attention to the promising outlook for new and sharp drops in the mortality in the near future. As we then noted, both the white and colored races have shared in the improvement. We may now say that the rate is also declining for each of the sexes and for every age group.

Nevertheless, during the very period when the death toll of tuberculosis has been dropping there has been an important change in the relationship between the two sexes, in the white race, between the ages of 20 and 25 years.

Prior to 1915 tuberculosis took a lighter toll of life among the females of this group than among the males. In 1911, for example, the death rate among white females insured in the Industrial Department of the Metropolitan Life Insurance Company, in this age range, was 263.3 per 100,000, as compared with 288.6 among white males; that is, the mortality among the former was only 91.2 per cent of that among the latter. In 1913, it was 90.9 per cent and in 1914, 95.1 per cent. With 1915, however, there began a reversal of the sex incidence of tuberculosis, and this has become more and more marked as time has gone on. In 1915,

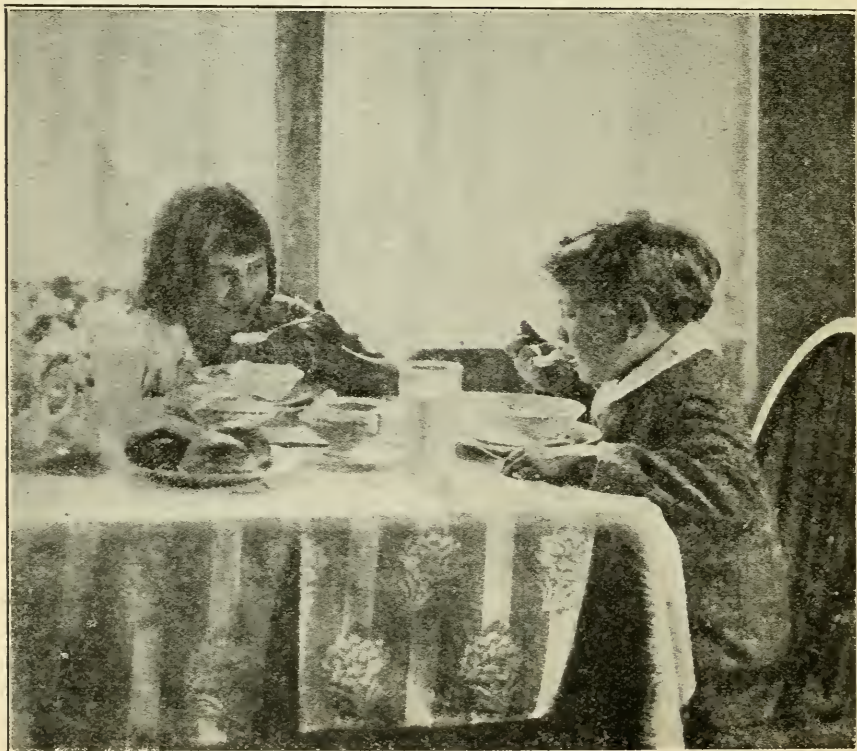


FIGURE 8.—A WELL NOURISHED CHILD IS NEARLY ALWAYS A HEALTHY CHILD

the mortality among the young white women of this age group was 2.6 per cent *in excess of* that for males. In two recent years the mortality among young females has actually exceeded that among males by more than 50 per cent.

This reversal of the sex incidence has taken place during a period when the death rate has declined 65.2 per cent among white males at these ages and 46.6 per cent among white females. That is, the death rate has declined much faster among the males than the

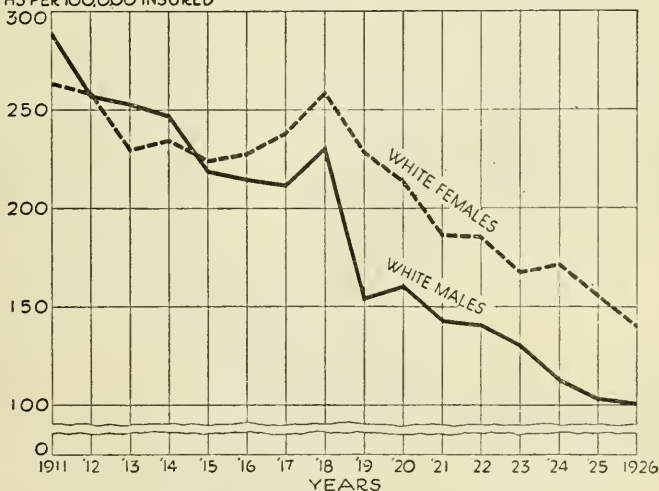
all the favorable factors that have operated to bring about a declining death rate from tuberculous disease, among all races, in each sex, and in each age group, young white women have not shared the benefits to the extent that has obtained for young men.

We cannot emphasize too strongly the point that this changed sex incidence in the mortality from tuberculosis should not make us less optimistic as to the future of the campaign against this disease. We simply call

TUBERCULOSIS AMONG YOUNG PERSONS

DEATHS PER 100,000, WHITE MALES AND FEMALES, AGES 20 TO 24 YEARS
METROPOLITAN LIFE INSURANCE COMPANY, INDUSTRIAL DEPT. 1911 TO 1926

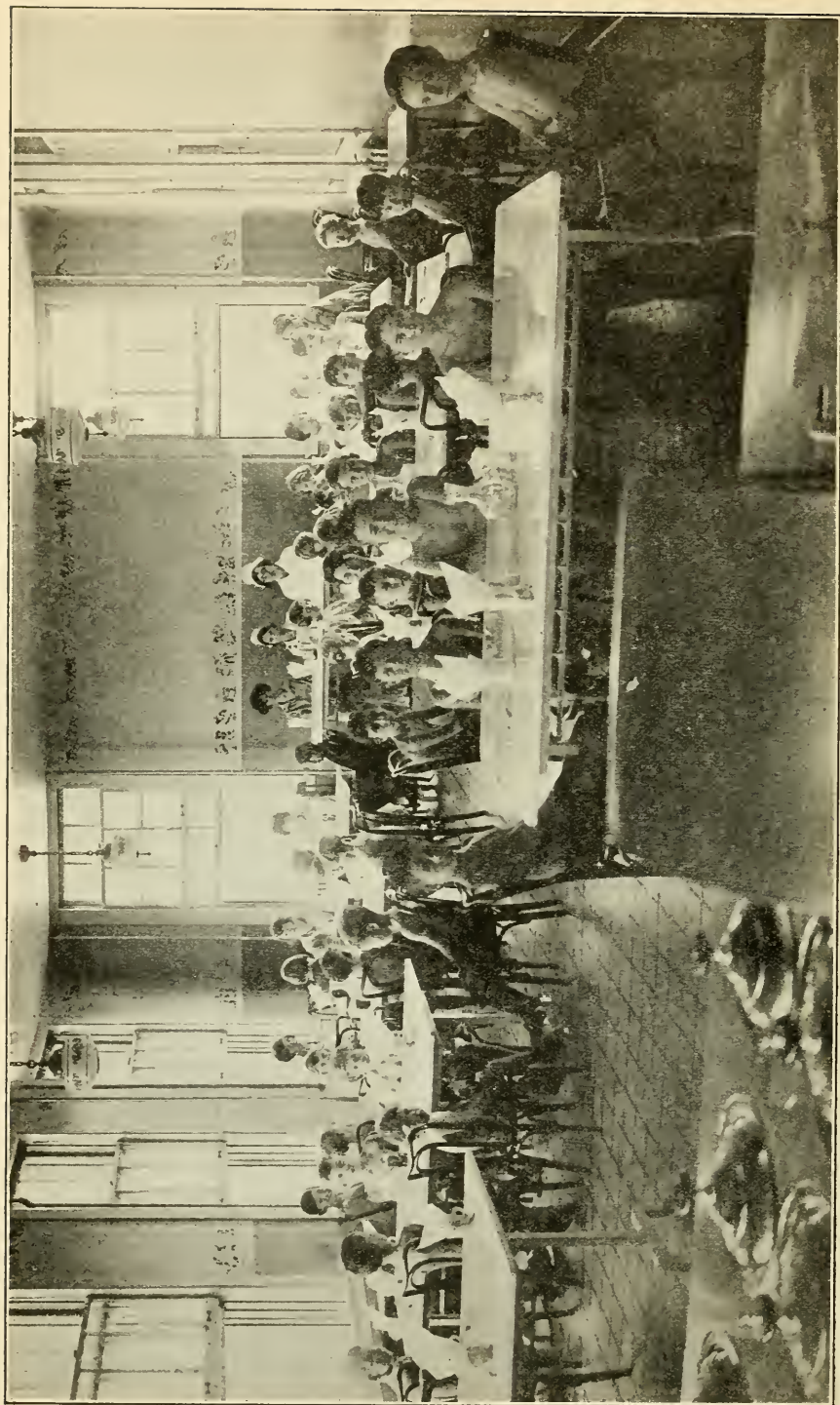
DEATHS PER 100,000 INSURED



females. It is difficult to assign a reason for this; but one possible reason may be suggested. During this period of years, and especially during the war years, there has been increasing industrialization of young women. It is entirely possible that as more young women have been exposed to the stresses of regular employment, outside of the home, the likelihood of the sex to contract tubercular infection has not declined to the same extent as has obtained for young men. Thus, despite

attention here to the fact that, *contemporaneous with a declining death rate*, something has occurred within the past fifteen years to cause the mortality among the young white women to be higher than that of young white men—instead of lower, as was the case a little more than a decade ago.

The accompanying graph shows the course of the death rate among white Industrial policyholders in the age period, 20 to 24 years, for the period 1911 to 1926.



DINING ROOM, CHILDREN'S BUILDING—SANATORIUM

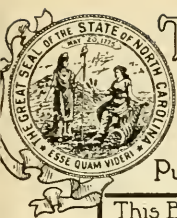
**DEATHS FROM TUBERCULOSIS, PULMONARY AND ALL OTHER FORMS; BY AGE, RACE AND SEX
GROUPS FOR YEAR 1926**

	Race	Total	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 39 years	40 to 44 years	45 to 49 years	50 to 54 years	55 to 59 years	60 to 64 years	65 to 69 years	70 to 74 years	75 to 79 years	80 to 84 years	85 to 89 years	90 to 94 years	95 to 99 years	100 years and over	Unknown or not stated
{ Pulmonary tuberculosis.....	White.....	1,158	4	5	1	---	---	1	3	6	64	133	175	193	126	94	77	62	41	54	45	33	22	9	2	---	---	---	---	8
	Indian.....	13	---	---	---	---	---	---	---	1	1	1	3	2	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Colored.....	1,331	8	11	8	4	3	2	3	6	42	169	299	213	150	123	83	62	40	27	29	21	13	6	1	---	---	---	---	8
{ Pulmonary tuberculosis.....	White.....	568	2	1	1	---	---	1	2	1	21	47	87	120	71	51	38	31	20	28	19	12	8	5	---	---	---	---	2	
	White.....	590	2	4	---	---	---	---	1	5	43	86	88	73	55	43	39	31	21	26	26	21	14	4	2	---	---	---	---	6
{ Pulmonary tuberculosis.....	Indian.....	3	---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---
	Indian.....	10	---	---	---	---	---	---	---	1	1	1	1	2	2	1	1	---	---	---	---	---	---	---	---	---	---	---	---	---
{ Pulmonary tuberculosis.....	Colored.....	571	7	6	3	2	2	1	3	10	54	111	89	67	61	45	33	21	18	14	7	9	3	---	---	---	---	---	---	5
	Colored.....	760	1	5	5	2	1	2	2	3	32	115	188	124	83	62	38	29	19	9	15	14	4	3	1	---	---	---	---	3
{ Tuberculosis (all other forms).....	White.....	119	7	8	5	4	3	1	1	3	5	7	13	7	7	10	6	5	2	5	5	3	2	1	1	---	---	---	---	1
	Colored.....	148	3	6	5	1	1	2	1	3	15	16	25	23	12	9	3	6	7	4	2	2	1	---	---	---	---	---	---	
{ Tuberculosis (all other forms).....	White.....	65	4	5	2	3	1	---	1	1	3	3	8	1	5	3	4	4	2	2	5	4	1	1	---	---	---	---	---	1
	White.....	54	3	3	3	1	2	1	2	2	2	4	5	6	2	4	6	2	3	---	---	1	2	1	---	---	---	---	---	
{ Tuberculosis (all other forms).....	Colored.....	73	1	3	2	---	---	---	---	10	5	14	13	5	6	2	3	4	2	---	2	1	---	---	---	---	---	---	---	---
	Colored.....	75	2	3	3	1	1	2	1	3	5	11	11	10	7	3	1	3	3	2	2	---	---	---	---	---	---	---	---	
{ Total males from tuberculosis..... Total females from tuberculosis.....	Males.....	1,280	14	15	8	5	3	---	3	6	24	83	180	192	197	141	102	78	58	42	48	32	23	12	5	1	---	---	---	8
	Females.....	1,489	8	15	11	4	4	5	3	9	45	174	291	229	167	126	89	74	56	32	43	41	27	18	6	2	1	---	---	9

DEATHS FROM PULMONARY TUBERCULOSIS BY COUNTY AND RACE TOGETHER WITH RATES PER 100,000 POPULATION, 1926

Total Deaths (All Forms Tuberculosis) 2,769. Rate 96.8

County	Total	Rate	White	Rate	Colored	Rate	Indian	Rate	County	Total	Rate	White	Rate	Colored	Rate	Indian	Rate
Alamance	32	90.3	14	50.5	18	233.7			Jones	4	37.3			4	85.6		
Alexander	8	63.4	5	42.5	3	348.8			Lee	11	74.3	7	66.0	4	95.2		
Alleghany	1	13.5	1	14.1					Lenoir	31	90.9	11	57.5	20	133.3		
Anson	27	89.1	4	27.7	23	144.6			Lincoln	2	10.8	1	6.0	1	52.6		
Ashe	6	26.9	6	27.5					Macon	11	82.0	11	84.7				
Avery	3	27.3	3	28.0					Madison	12	59.7	10	50.6	2	598.8		
Beaufort	33	106.1	7	35.7	26	226.0			Martin	7	30.5	4	32.0	3	28.8		
Bertie	16	65.0	7	64.2	9	65.6			McDowell	12	63.4	7	41.1	5	263.1		
Bladen	15	71.7	5	38.4	10	126.5			Mecklenburg	92	102.4	38	60.8	54	197.0		
Brunswick	7	46.0	3	30.6	4	74.0			Mitchell	5	41.1	5	41.5				
Buncombe	391	529.8	330	525.4	61	554.4			Montgomery	11	75.3	4	35.3	7	213.0		
Burke	15	60.9	10	45.8	5	178.5			Moore	25	102.8	14	80.4	11	159.4		
Cabarrus	23	59.4	14	43.4	9	138.4			Nash	32	69.5	7	26.6	25	126.9		
Caldwell	13	62.5	9	48.9	4	168.0			NewHanover	41	88.3	13	44.6	28	161.8		
Camden	10	185.8	3	92.1	7	329.4			Northampton	26	109.2	6	63.8	20	138.8		
Carteret	5	30.3	3	21.4	2	80.0			Onslow	6	39.7	3	28.5	3	65.2		
Caswell	12	73.1	2	23.8	10	125.0			Orange	22	111.1	6	43.7	16	262.2		
Catawba	20	52.9	10	29.2	10	277.7			Parrlico	4	44.1			4	124.4		
Chatham	11	44.7	3	17.9	8	101.2			Pasquotank	31	169.3	8	74.0	23	306.6		
Cherokee	8	50.0	7	44.4	1	406.5			Pender	9	60.8	2	26.7	7	95.6		
Chowan	11	103.2	2	37.3	9	169.8			Perquimans	10	89.2	5	86.2	5	92.5		
Clay	2	39.2	1	20.0	1	869.5			Person	20	99.5	7	61.4	12	137.9	1	564.9
Cleveland	21	56.0	9	28.7	12	193.5			Pitt	42	81.2	5	19.6	37	140.6		
Columbus	14	44.4			14	138.6			Polk	5	52.0	4	50.6	1	58.8		
Craven	45	143.3	4	25.6	41	259.4			Randolph	16	50.3	14	49.8	2	54.0		
Cumberland	35	91.8	15	74.5	20	111.2			Richmond	17	57.6	7	38.6	10	87.7		
Currituck	2	27.5	2	43.1					Robeson	34	53.2	6	19.2	20	63.0	8	80.6
Dare	1	18.8	1	20.2					Rockingham	37	75.0	27	70.1	10	92.5		
Davidson	22	56.2	12	33.7	10	285.7			Rowan	35	72.3	9	23.0	26	279.5		
Davie	7	51.0	5	42.0	2	111.1			Rutherford	21	62.6	14	48.4	7	152.1		
Duplin	13	38.9	6	28.4	7	56.9			Sampson	18	45.0	7	26.7	11	79.7		
Durham	63	120.0	24	64.0	39	260.0			Scotland	13	82.2	4	71.4	9	88.2		
Edgecombe	54	128.5	17	96.0	37	152.2			Stanly	22	67.6	17	60.9	5	108.6		
Forsyth	110	113.0	23	36.4	87	254.3			Stokes	6	28.7	6	31.9				
Franklin	21	75.0	8	50.3	13	107.4			Surry	18	52.4	15	46.9	3	126.7		
Gaston	36	59.3	18	35.2	18	185.5			Swain	3	19.8	1	7.1			2	212.9
Gates	7	66.0	2	37.7	5	94.3			Transylvania	2	18.6	2	19.9				
Graham	3	60.0	3	62.0					Tyrrell	1	20.6			1	67.7		
Granville	25	89.2	6	40.0	19	146.1			Union	18	47.4	9	30.4	9	108.4		
Greene	18	98.3	2	22.9	16	166.6			Vance	25	99.6	12	81.0	13	126.2		
Guilford	92	100.2	46	62.8	46	247.3			Wake	78	93.8	26	50.2	52	165.6		
Halifax	47	98.1	12	57.4	35	129.6			Warren	18	80.0	3	36.1	15	105.6		
Harnett	15	46.2	8	33.8	7	79.5			Washington	14	119.6	7	114.7	7	125.0		
Haywood	9	35.7	6	24.6	3	333.3			Watauga	4	27.5	4	28.2				
Henderson	25	127.5	17	96.1	8	416.0			Wayne	65	132.6	15	54.1	50	234.7		
Hertford	15	88.7	2	31.7	13	122.6			Wilkes	10	29.2	9	28.1	1	44.5		
Hoke	40	294.4	8	122.6	32	453.2			Wilson	50	117.6	11	46.6	39	206.3		
Hyde	3	35.7	1	19.5	2	61.2			Yadkin	9	52.9	8	50.2	1	93.3		
Iredell	31	76.7	11	33.2	20	273.9			Yancey	3	17.5	3	17.9				
Jackson	10	72.9	8	63.8			2	347.2									
Johnston	31	57.3	19	45.5	12	96.7			Total	2,502	96.8	1,158	58.1	1,331	153.6	13	108.9



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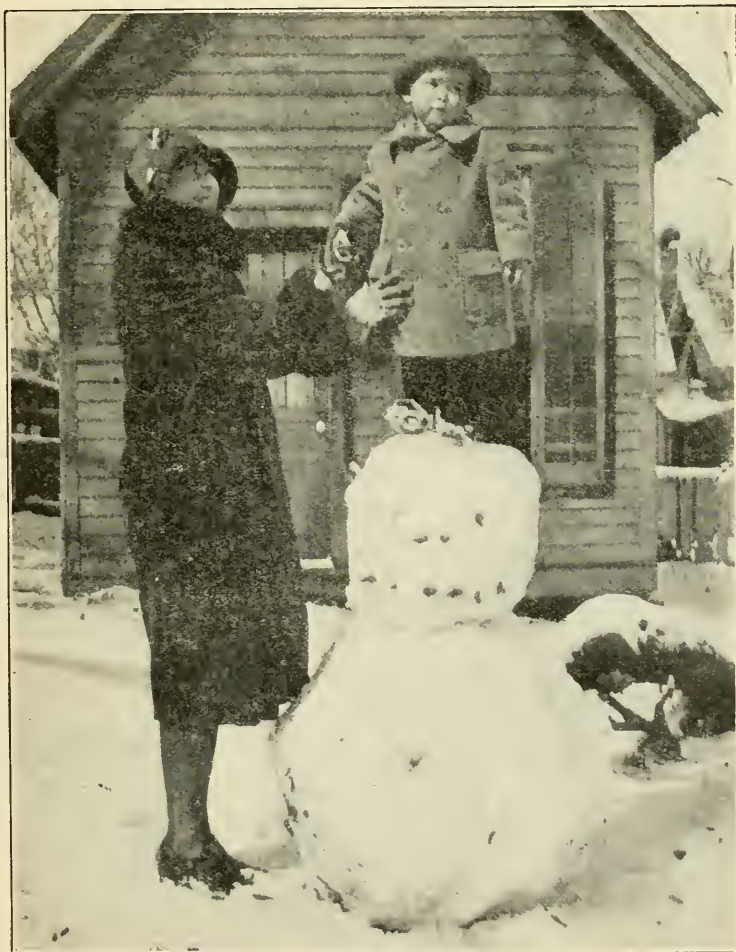
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Winter outdoor sports in a Raleigh backyard. Rather unusual but fully appreciated when the old climate takes a vacation

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	Fly Placards	Sanitary Privies
Cancer	German Measles	Scarlet Fever
Catarrh	Hookworm Disease	Smallpox
Care of the Baby	Infantile Paralysis	Teeth
Constipation	Indigestion	Tuberculosis
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Clean-up Placards	Malaria	Typhoid Fever
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Don't Spit Placards	Public Health Laws	Water Supplies
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FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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THE Health Bulletin



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TOXIN-ANTITOXIN WILL REDUCE THE PREVALENCE OF DIPHTHERIA IF IT IS USED

We notice in one of the numerous bulletins, pamphlets, leaflets, booklets, circular letters, or something of the kind which floods our mail every day from some cult, quack, or fake institution broadcasting its propaganda, that the statement is made that toxin-antitoxin has not reduced the prevalence of diphtheria. The particular article in question purports to give figures for the prevalence of diphtheria in New York City through 1926 and the first six months of 1927.

Assuming that the figures as quoted are correct, it means nothing at all. In the first place, it generally requires about six months after the administration of at least three full doses, and sometimes of five doses, of toxin-antitoxin before immunity is conferred. In the second place, to be effective on a broad scale every child in the United States from six months of age to six years of age would have to be properly immunized, and, as aforementioned, a period of six months would have to elapse before there could be anything like a test of the efficacy of the preventive treatment in controlling the disease.

It may be the weather and it may be normal, it may be because our mail is receiving an undue proportion of such fake stuff; but it does seem that in recent months we are coming in contact with more fakery and quackery and having to look at more propaganda undertaking to disseminate misinformation in the United States than at any period in the past. Vaccination and the assistance of serum generally is not a cure-all and not a preventive of everything. But it represents the

best thought of the accumulated wisdom of the ages and the experience of mankind from the beginning of time, and such things are the best expression of the scientific world in its effort to combat preventable diseases, prolong life, and preserve the race from extinction.

These fake outfits are generally conceived in ignorance and born in prejudice, and are perpetuated through the cupidity of their proponents. It behooves the man in the street and the citizen on the farm to inform himself as best he can concerning the various and sundry teachings that come his way, and to base his conclusions on common sense and be governed accordingly.

The foremost scientists and research workers in the United States declare unequivocally that diphtheria may be prevented and the disease entirely eliminated from the world, provided all the people could be induced to adopt the preventive measures recommended by reliable and honest physicians and health officers throughout the world.

Moral. If you have not already had your child protected against diphtheria, see your doctor and have toxin-antitoxin administered at an early date.

DOWN WITH GERMS

Visiting Doctor—"How is it, Sambo, that you and your large family keep so healthy?"

Sambo—"Well, suh, Ah tell you: we've done bought one of dose sanitary drinkin' cups, ana' we all drink outen it."—*The Reidsville Review.*

COOK YOUR PORK

There is a disease known as Trichinosis, caused by eating pork, in which the parasite which causes the disease has its domicile. This parasite is known as a Trichina, which is microscopic in size and so cannot be seen except through very careful microscopic examinations by veterinarians and other experts who know how to find it. As a rule, pork harboring this parasite looks exactly like other pork. Recently several State Boards of Health, the Agriculture Department at Washington, and our own State Department of Agriculture have sent out warnings to the people concerning the presence of this parasite, calling attention to the necessity of pork being thoroughly cooked before it is eaten. This warning is pertinent to North Carolina, and should be heeded by us all.

One of the great enterprises in this State is hog raising. It is a fine and useful industry, and should be encouraged and increased by all means. But as North Carolina has about 800,000 hogs headed for the home or commercial markets, and as about 2 per cent of all hogs are said to be infected with this parasite, you can therefore figure for yourself that about 16,000 of these hogs will carry this infection in active form.

The disease is dangerous, although its mortality is usually a little below that of typhoid fever, the symptoms of which, by the way, it resembles considerably; and the disease is very hard to treat once it is established. The simple preventive is to cook thoroughly any meat before it is eaten. The temperature in the ordinary frying pan in which sausage is cooked, if the sausage is cooked thoroughly and allowed to stay in the pan long enough and to cook slowly enough to a temperature of at least 160 degrees (and the frying pan temperature is generally much higher than that), the parasite will be killed, and you need have no uneasiness about eating your pork chops or your sausage. But be sure the inside of the sausage or the pork is cooked through thoroughly, or some of the parasites might come through the

cooking process if improperly done, and set up an infection after being consumed.

We are sure that most families in North Carolina eat their pork and other meat products only after it is thoroughly cooked. So this warning is properly directed toward the reminder that care be exercised in the cooking of pork. It may be well for us to add a little information to the effect that mothers need not confuse this parasite with the ordinary round worms frequently infesting children, which doctors have no trouble in prescribing for successfully. Another thing, because the child may grit its teeth at night or may manifest other of the time honored fishwife indications of worms it will not mean that such child is infected with this parasite.

As said in the beginning, this is a microscopic parasite, and therefore not readily seen. It passes its entire life in the bodies of people, of hogs, or of rats. Hogs get the infection through eating offal or the bodies of infected rats. These parasites embed themselves into the muscles of an infected person and after several months die, after becoming encysted.

It will be seen from this brief technical description that it is important to prevent this infection in the first place, and, as aforementioned, extreme care should be practiced in the cooking of meat of any character. And as heat penetrates through slowly in the process of cooking large pieces of meat, it is necessary to know that the meat is thoroughly cooked in the center as well as outside.

In conclusion, we would advise you to go on and eat your meat and pork whenever and however you want it, except make it your business to see that the meat is cooked thoroughly "DONE."

Asheville Times quotes the North Carolina HEALTH BULLETIN as saying being a baby is the State's most hazardous occupation. Well, her boy friend who drives the car gets hurt, too.—*Greensboro Daily News*.

YOUR CHILDREN AND THE MOVIES

We are publishing in this issue a cartoon drawn especially for the BULLETIN by Mr. Norman Woodlief, a patient in the State Sanatorium. The cartoonist asks the question over the picture: "Is this beneficial to our children?" And in the caption under the cartoon the question is asked: "What kind of movies are your children seeing?"

We would advise parents and teachers to study this cartoon and then ask themselves the question repeated in the caption. But do not stop there. Find out for a certainty and then act with definite precision. And the only intelligent action in such cases is to keep the children home and put them to bed instead of letting them see such pictures as portrayed.

The moving picture producers of the country are said to be endeavoring to eliminate such pictures, or at least to reduce them to a minimum. Nobody can argue but there has been entirely too much of it in the past. The moving picture business is one of the biggest industries in the country. It is one of the mightiest vehicles for education as well as for entertainment, but it may also become a great menace to the health and morals of a whole generation of people. The picture drawn by the cartoonist is an illustration of some of the types of pictures displayed before children as well as adults too many times.

When a parent in North Carolina who went out last winter to see if he could find the cause for a small seven-year-old son of his getting extremely nervous and excitable, losing sleep and having nightmares when no reason known to him could account for it (this man was a doctor of average intelligence who seldom took his children to the movies except it was an especially adaptable picture for children, such as *Alice in Wonderland*, and so on), his discovery was enlightening. It may interest other parents in like situations. A moving picture theater in that town had arranged with the school authorities to put on an exhibition each Friday afternoon, charging an admission fee of something like a dime, and part of the proceeds to go to the committee

on building and grounds for the improvement of the school premises. This father slipped into one of the Friday afternoon entertainments. The sight that greeted him was something like the following: About one hundred youngsters, most of them from 1st to 4th or 5th graders, were sitting breathlessly on the front seats of the school auditorium waiting for the show to start. When it started it opened with a bang and a slam. One man galloped in on a horse, brandishing a pistol, with a woman, who turned out to be another man's wife, sitting across the front of the saddle and held in one arm. Before the thing was over there were two outright murders and about a half dozen marital tangles. Now the foregoing arrangement would have been fine; it would have afforded entertainment to children on a Friday afternoon and worked out well in every respect, provided the school principal or superintendent or a capable committee of women with at least one doctor on it could have censored these pictures in advance.

We might mention another instance that happened right here in Raleigh not very long ago. A mother hearing a commotion on the premises rushed in to where a small boy was sitting astride a still smaller boy whose face was already pummeled black and blue to a fare-you-well. Horrified, the mother pulled off the young assailant, and after first aid applied to the victim set about to find how come. The answer was exceedingly significant: "Oh, I was playing like they do in the movies."

One of the chief causes of malnutrition among present-day school children is recognized by competent authorities as being due to emotional strain, to excitement either at home, at school or, at the moving pictures. The deleterious effect in after years will be even more serious.

It is reported that the hookworm disease has been practically eradicated by the Rockefeller Foundation. It is the oily bird that gets the hookworm, you see.—*San Diego Union*.

A PATENT MEDICINE EXHIBIT

At the November meeting of the Southern Medical Association at Memphis, Tennessee, among the scientific exhibits for the benefit of the doctors and other visitors at that meeting, in which nearly three thousand doctors were present from all over the South, one of the most interesting exhibits was one showing specimens of patent medicine which had been offered for sale in Memphis and which had been condemned as being worthless or worse. The placard designating the exhibit read as follows:

"Specimens of over 68,000 of patents (medicine) offered for sale in Memphis Auction and condemned through collaboration of the U. S. Bureau of Chemistry, Memphis Department of Health, and Department of Pharmacology, University of Tennessee."

It goes without saying that the particular exhibit shown in this instance was illuminating from every standpoint. It is to be doubted that ever before in the South, or anywhere else, has such an assembled aggregation been gathered together for the information of the doctors attending that meeting. Every kind of medicinal fraud the human mind could possibly think up, it seems, was exhibited—tablets, pills, potions, powders, liquids of every color and constituency. Cures from corns to cancer. Herbs, extracts, sirups, tinctures, oils, cordials, "Pain Knockers," "Bitters," "Balms," "Liver Powders," "Liver-enes," "Liveraxes," "Bearlaxes," "Lax-so's," "Liver Klenzor's," "Liver Regulators," "Liver-Ezes," "Liver Tonics," "Laxana's," "Appendixine"; cough and croup remedies without end. Thousands of different kinds of iron, one fine specimen called "Why-Koff." Several hundred kinds of packages and bottles labeled "Antiferments" and "Anodynes." Blood "Purifiers" without number. Liniments and "Rub-On's" by the bushel. Everything from "Baby-Ease" for the baby to "Rocky Mountain Tea" for grandpa. Emulsions, antiseptics, and even one Canadian beautifier known as "Epp-O-Tone" for the girls' complexion. "Tip-Top" for all diseases of the skin, on down to "We-Li-Ka" for everything, including man

and beast, fish and fowl. One pneumonia and croup and diphtheria "remedy" advertised a picture of a big horse shoe on the package to indicate to the poor deluded parents of a child sick unto death of diphtheria and without proper medical aid, that to use this fake meant good luck. "Dead Shot" for worms (and often dead shot for the helpless baby taking it, of course, but not so stated on the bottle), "Worm Oils" and "Worm Candies" in profusion. Teething "Elixirs" and Rub-On-Oils" for "Out-Go-Pain," "Sexine Pills"; and to cap the exhibit several kinds of truck labeled "Female Regulators." Influenza pills and kidney "cures" were, of course, not missing but, on the other hand, well represented by "Chill-Eases," "Chill-Flies," "Flu Cures," and so on. One very thoughtful Mr. So and So's tablets were guaranteed to cure "all troubles peculiar to women." The old gray cure-all of the pile was probably one bottle full of truck said to be "King of Fire."

The foregoing is just a mere sketch of some of the more catchy labels on the bottles and packages in this notable exhibit. Never before have we looked on a greater aggregation representative of human cupidity and the depths to which some people will stoop in exploiting their less fortunate and ignorant fellowmen.

A LAWYER PLEASED WITH THE QUICKNESS AND WISDOM OF HIS SON'S DECISION

While at the family luncheon several years ago, Robert, a boy of six years of age, said to his father:

"Papa, I want your knife this afternoon."

The father replied: "Robert, I do not know about this. You had better speak to your mother about it; she is boss in this house. I have no authority in here; whatever she says controls." But at the same time, "Robert, I want you to understand that when we are out of this house, my authority comes in and she is no longer boss."

Immediately Robert replied: "Papa, let's go out of the house."

SCHOOL VENTILATION AND CHILD HEALTH

By THOMAS D. WOOD, M.D., and ETHEL M. HENDRIKSEN

Ventilation constitutes one of the chief health problems of the day since an increasing number of health disorders are being attributed to a lack of fresh air. Physicians recommend fresh air as a treatment for many diseases, but they often fail to give sufficient attention to it as a preventive of the same diseases.

Because of its physiological and hygienic importance, ventilation is entitled to receive serious consideration from all health agencies, but, as a matter of fact, it is very much neglected. Poor or mistaken ventilation is commonly found in schools, homes, churches and other indoor places, and this in spite of the costly ventilation equipment which often has been installed. Ventilating engineers find it difficult to replace the unscientific practice of years with the newer ideas of air hygiene discovered by the physiologists.

This lack of agreement between the new scientific theories and the very general practices in relation to ventilation is so pronounced that a Commission was created in New York State several years ago to make an impartial study of the various methods of ventilation to see which was the most beneficial to health. The New York State Commission on Ventilation published its report in 1923 but its findings were not accepted by most of the ventilating engineers. As for the general public, it may be said that no health subject today is more widely misunderstood than ventilation. Ignorance in regard to both its purpose and how to secure it is almost universal.

According to the new teaching about the hygiene of fresh air our concern is more with the air we live in than with the air we breathe. The health effect of air is on the skin rather than on the lungs, and it is temperature and air movement which matter more than any chemical impurities in the air. In cool, moving air the body feels refreshed and stimulated while in an

overwarm atmosphere the opposite effect is produced.

Let those who are having this principle presented to them for the first time try it out in some practical manner to demonstrate the actual truth for themselves. This might be done by entering a very warm room and then by arranging that fresh outside air be delivered to one's nostrils through a tube. From such an experience it will be readily observed that the discomfort one feels is due largely to the failure of the skin, in an overwarm atmosphere, to remove the excess of the body heat by evaporation of the moisture it excretes. The opposite conditions, a cool room with warm, expired air pumped to one through the tube, will prove that one is comfortable while breathing so-called "impure" or "foul air" if the air which surrounds the body is cool and dry enough to rapidly evaporate the moisture of the body.

This teaching may be presented to children through an experiment with two flowers of equal kind and freshness, for example, with two roses. Place one in a warm room and the other in a cool room. The rose in the warm atmosphere will be observed to wither very soon compared to the rose in the cool atmosphere.

Cool air is important in the treatment of many diseases such as tuberculosis, pneumonia and heart disease. It follows that it is equally essential in the prevention of these diseases.

Let us visit a school building, for example, where the typical fan system is in operation. As we enter the building we are greeted with the usual schoolroom odor which has now become almost proverbial. Even a three-year-old can detect it, as was evidenced in the case of little Tommie who was invited to attend a play hour called "the menagerie" in which his older brother in the kindergarten was to take part. As he entered the school building with his mother, Tommie exclaimed, "Oh,

they are having the menagerie, mother! I can smell the elephant."

It may be partly because of the odors which so often characterize school rooms that schools have become the chief centers of ventilation experiment and practice. Or it may be because public money can be secured for the costly equipment so often installed in schools where private funds could not be interested so readily. Whatever the reason, it is evident that the ventilation problem of the present day is centered largely in the school.

But, returning to our observation of the ventilation of a school building under the fan system, of the trunk-duct type most commonly in use, let us notice the construction of this system. There is a large chamber, or room, usually in the basement, where air is brought in from the outside by means of fans, and stored. This is called the plenum air chamber. There are heating coils over which the air passes to be brought to a temperature of from 64 to 100 degrees F. before it is passed through the main or trunk cut, which goes up through the building, discharging its overheated air into every room as it passes along. In every room the windows are closed. Now let us enter a room and observe the temperature. The teacher advances to join us. We observe that the temperature is 78 degrees F. "This is ten degrees too high," we exclaim.

"Yes," the teacher explains, "if I open my window, the ventilation of the other rooms will be disturbed. But I see that I must admit some fresh air. The children's faces are flushed and they are growing restless and inattentive to their studies."

She opens a window. We bid her good-morning and pass into another room, and so on from one room to another, all of which are too warm and in some of which the teachers have met the situation by opening windows. Then we come to a room which is too cold. After the over-warm rooms it feels pleasant to us but we can see that the teacher is uncomfortable and that most of the children are putting on extra wraps.

"It began to grow cold in this room about an hour ago," the teacher tells us. "The thermometer is now down to

55 degrees F. At first the cooler air was pleasant but this is too cold to sit in with comfort. I have sent for the janitor," she concludes.

Soon the janitor arrives. He merely looks into the room and is gone. We are eager to see what he will do, so we follow him. He enters one room after another where we had seen the teachers obliged to open windows. He closes them, usually with a bang to indicate his disapproval. We have a question ready for him, for we want to hear what he has to say. Even before we speak he answers the question written on our faces.

"If the teachers would stop fooling with the windows the ventilation plant would work all right. You can't have a lot of cold air coming in through windows and expect the ventilation plant to heat the rooms." Here was a new idea to us.

"Heat the rooms!" we say almost in unison, "what has a ventilation system to do with heating? Isn't there a heating plant for that? And isn't the ventilation system supposed merely to provide fresh air?"

And that seemed to be a new idea to the janitor. "This ventilation system is supposed to help heat the rooms. If it doesn't send a lot of hot air to them, they become cold," he replies, and walks away.

"I should like to turn this ventilation system off altogether," confides the principal of the school to us in a later conference. "But you see it is impossible to heat the building without it, in the coldest weather. The minute the weather grows milder in the spring we discontinue the ventilation apparatus and throw our windows open and have fresh air."

"Then your ventilation system is a heating system and, in reality, a preventive of ventilation?" we concluded.

"I'm afraid that is true," agrees the principal.

"Think of this condition prevailing in the majority of our schools!" we reflect as we leave the building.

But some progress is promised. There is a better way to ventilate school rooms.

Samuel H. Wheeler, after a fight with the School Board in Fairfield, Connecticut, succeeded in getting window-

gravity ventilation installed in the Sherman School of that community in 1913. The system was so satisfactory almost from the start that it attracted wide attention not only in Fairfield but elsewhere. Ever since that time all the new school buildings in Fairfield have been equipped with the same system. The superintendent of schools calls it the most satisfactory and economical system of ventilation he has ever encountered.

Fresh air is admitted at bottom window openings and tempered by radiators extending the full length and beyond the windows, and then is deflected upward by glass window deflectors. Overheated air is removed through ducts in the walls at the opposite side of the room.*

The Wheeler system of window-gravity ventilation was thoroughly studied by the New York State Commission on Ventilation and is endorsed as the most promising method of ventilation for schoolroom use.

Another experimenter claims that windows are opened most successfully for ventilation by lowering them from the top. He sets the window shades down a half inch or less and then opens the window the merest crack in winter. Two or three windows set open in this manner will ventilate a room, provided the heat is well controlled. It is advised that heat be checked just before the room becomes warm enough, as at 66 degrees F. It usually is found then that the temperature will not rise above 68 degrees F. In other respects the system used by this experimenter is much the same as the first. These two systems of ventilation are known as window-gravity ventilation because they depend upon the gravity of air currents for their results.

Window-gravity ventilation is practical for one-room schools. Care must be taken in cold weather not to allow too wide openings of windows. The high exhaust outlets should be placed at either end of the room, opposite the windows. They can be allowed either to open into the attic or they may be carried up through the roof, opening outside the building. A full de-

scription of this type of ventilation is contained in *Ventilation and Health*, a hand-book on ventilation for teachers and others in charge of indoor air conditions, written by the authors of this article, and published by D. Appleton & Company.

In schoolroom ventilation the temperature of the room should be recorded hourly. A model temperature chart together with a pamphlet describing its use have been prepared for teachers by the authors of this article, and may be secured from the Public School Publishing Company, Bloomington, Illinois.

From the experiments which have been conducted, there is ample proof to show that both health and school progress are benefited by a good air condition in schoolrooms. This is a matter which should interest both parents and teachers.

The first step in any community is a temperature survey of schoolrooms to see how serious the problem is; the second step is definite action to bring about a better ventilation practice in schools either by changing the system in use or by a more efficient operation of the existing system.



Four Months Old and Already Doing His Own Thinking

* See "Ventilation and Health" by Wood and Hendriksen, D. Appleton & Company.

A USABLE HEALTH PLAY FOR ELEMENTARY GRADES

(The Third of a Series)

By ELIZABETH KELLY

This is the third number of a series of lessons or plays for elementary schools. The purpose of this play is to help in making children realize the importance of regular and sufficient hours for sleep. The aim is to link sleep closely with the other necessary good health habits which children must acquire and practice if they are to have healthy bodies.

Proper habits of sleep can be more easily taught than those of food, exercise and cleanliness, because it requires less constant effort on the part of the child. Sleep may "take care of itself" but it requires a sufficient amount of restful sleep to take care of the body and the mind—restful sleep does not come to the unprepared and the unready.

THE SILENT BUILDERS

Cast

Teacher—A capable school girl.

Class—Four boys and four girls.

Miss Restful Sleep—A dignified, calm school girl.

Scene

A school room with class and teacher ready for the lesson.

Teacher: Why do we call ourselves "Body Builders"?

Class: Because each of us builds his own body.

Teacher: What is the motto of the Body Builders?

Class: Mens sana in corpore sano.

Teacher: What is our golden text?

Class: The body is the temple of God.

The Lesson

Teacher: Let us all together repeat the creed which we learned last lesson from Mr. Nourishing Food.

Class: "A maximum of vegetables, fruits, cereals and milk; a minimum of meats, sweets and pastries; neither tea nor coffee.

Teacher: Will each of you tell me what you have done since our last lesson to live up to this creed?

First girl: I ate a baked apple and oatmeal with milk for breakfast in place of meat and hot bread.

First boy: I drank milk for breakfast in place of coffee and drank milk again at lunch and at supper time.

Second girl: I washed the oranges which we had for breakfast and the berries we had for lunch.

Second boy: I don't like turnip greens nor carrots but I used some in building my body yesterday.

Third girl: I drank five glasses of water yesterday, and ate some raw cabbage.

Third boy: I drank four glasses of milk yesterday and found I liked it, and I ate a lot of fruit too.

Fourth girl: I cooked whole wheat biscuits in place of white flour bread, and we ate stewed prune whip in place of pastry for dessert.

Fourth boy: Mother says we will have at least one leafy vegetable and one root vegetable besides potatoes each day. I'm going to make a garden so we can have vegetables all the time.

Teacher: That is fine. I know each of you will use daily these materials which Mr. Nourishing Food told us we must have if we are good Body Builders.

Class: "A maximum of vegetables, fruits, cereals and milk; a minimum of meats, sweets and pastries; neither tea nor coffee." This is our new creed and we will live up to it.

Teacher: You have to do a lot of thinking and a lot of doing to live up to the advice and creed of Mr. Nourishing Food.

Class: Yes, but it is worth it all, for we must have Mr. Nourishing Food's material and we must learn to use it every day to make strong bodies.

Teacher: Mr. Nourishing Food puts you to work and keeps you at work but there is another master Body Builder who builds for you while you rest.

Class: Which Body Builder is this?

Teacher: Here she comes; this is Miss Restful Sleep and she builds for you if you will let her do so.

Miss Restful Sleep: Boys and girls like me but they are not always glad when it is time for me to come or to go.

First girl: Tell us how you build our bodies while we rest.

Miss Restful Sleep: I am not sure that I can make you understand *how* I build your body while you rest. I do not build so much as I conserve and restore.

First boy: What do you mean by "conserve and restore"?

Miss Restful Sleep: I mean I am a kind of repair shop. Physical and mental work break down nerve cells and wear tissues. I restore and repair these worn tissues and cells and keep the work done by the other Body Builders from being destroyed.

Second girl: But if you cannot tell us how to build with your material how can we use it?

Miss Restful Sleep: All you have to do is to give me a chance to build for you.

Second boy: Teacher said you would build for us and I am relieved because Mr. Nourishing Food gave me a lot to do each day.

Miss Restful Sleep: All you have to do is set a definite time for me to come, make necessary preparations for me, and let me stay until time for me to go.

Third girl: That is easy. But I shall want you to come early sometimes and not until late other times when I have things I want to do.

Miss Restful Sleep: I cannot do my work well except through regular hours in my shop.

Third boy: What time do you want to come, and how long do you stay?

Miss Restful Sleep: I come at six o'clock to my repair shop for little boys and girls; for larger boys and girls at eight o'clock; and for grown-up boys and girls I come at ten o'clock. I am ready to leave all of the shops at

six o'clock and do not keep open later than eight each morning.

Fourth girl: Why not come at the same time for all and leave at the same time?

Miss Restful Sleep: Children have to be built and repaired and it takes longer than just to restore grown-ups.

Fourth boy: What do you mean by "making necessary preparations" for you to work for me while I rest?

Miss Restful Sleep: I mean you must have a quiet dark room with plenty of ventilation. You must have a smooth, firm bed with soft flat pillows if pillows are used, and comfortable covering. You should then prepare yourself to get on your bed and rest. As soon as you relax I come and work at building your body while you sleep and rest.

Teacher: Miss Restful Sleep, will you explain what you mean by "prepare yourself to rest" and "as soon as you relax."

Miss Restful Sleep: You should prepare yourself by removing all day clothing, making the body clean and by putting on a comfortable, clean sleeping garment. You should lie relaxed and straight on your face or side or back so that the building will not grow crooked while you rest and sleep.

Teacher: Isn't it wonderful that we have Miss Restful Sleep to help build for us while we rest?

Class: We will make necessary preparations for you, Miss Restful Sleep, and we will be ready for you at the regular time.

Miss Restful Sleep: Remember no other builder can do the work which I do in making your body strong nor can your body be strong without my work.

Class: You are good to work for us while we rest and we will not cheat you more by taking your time for work.

Teacher: Goodby until tonight when you come to us all.

Class: We will be ready for you tonight.

Some pedestrians who do not choose to run get their names in the papers, too.—*Council Bluffs, Nonpareil.*

MISINFORMATION

Long ago some wise man observed that one of the troubles about education was that so much the people learned was wrong. So far as we know no one has ever tried to dispute that observation.

We are moved to make these comments at this time because the truth of such a dictum has been borne home to us anew. The science of public health and sanitation is a comparatively new one, in its modern application at least. Science itself and medical progress have made such rapid strides in the last few years that it is out of the question for people generally to be expected to keep abreast of this progress.

The experience of this writer as a public health official now approximates about twenty years. As we look back over the period we are impressed with the fact that a good portion of our time has been required in trying to prevent the spread of erroneous conceptions of what public health is and what may be expected by the application of the principles of modern public health to everyday life.

Recently there has come to our desk about one-half dozen health bulletins from as many different cities of the country carrying a particular cartoon which illustrates perfectly the question under discussion. This particular cartoon has no indentification mark on it. In other words, it is without a daddy. But we presume that it was prepared and issued by some public health syndicate either personal, commercial, or official. It makes little difference which.

Briefly speaking, the cartoon is in four parts. The first section illustrates Mr. and Mrs. John Smith, we will say, in their living room looking over the school report cards of their two children. The cards are so bad that Mr. John says he fears the children are just plain dumb. Mrs. John says no; she just knows they are sick. The second section of the cartoon illustrates Mrs. John in the school room with her little girl in the chair being examined by the school doctor, who has a whale of a big head, and, of course, wears glasses. He is telling

Mrs. John that no wonder the child is behind in her studies because she can only half see. Section three of the cartoon has the school doctor looking into the throat of the little boy and telling Mrs. John that now as soon as these bad tonsils of the boy are removed he is going to feel like a brand new boy. Now in section four comes the detestable overplay, to say the least, of the whole situation. Over that picture labeled in big type is, "One Month Later." Get the full significance of that if you can. One month after Mr. and Mrs. John have been troubled over the report cards they have had the children examined at school; it is presumed that they have had the operation for tonsil removal done; and the caption states that the little girl now has proper glasses, and Mr. and Mrs. John are happily reading the new report cards, and Mr. John is very much pleased that these are the best reports that the children have ever had.

Now every school nurse, every parent with any experience, and certainly every school doctor, knows that such a transformation could not possibly take place all inside of one month. The State Board of Health of North Carolina has been responsible during the last ten years for the removal of tonsils and the fitting of glasses for several thousands of school children. We have always promised that we hope improvement will take place within six months to one year after the operation for tonsil removal is done. Our experience has borne out our promise in a majority of cases. But to expect a child to undergo a tonsil operation and to get back into school in time to greatly improve his school work inside of one month is ridiculous, to say the least. Such cocksure assertions and pictures afford one of the reasons why even yet a great many practicing physicians look askance at a good deal of the medical inspection of school work being done by school doctors and school nurses and so on about over the country.

Infallible rule for the prevention of automobile accidents: Keep out of cars Walk in the woods.—*Greensboro News*.

SMALLPOX MORE PREVALENT THIS YEAR

The United States Public Health Service recently stated that in a number of the states of the North extending across the country to the Pacific Coast that smallpox was much more prevalent than at the same season last year.

It seems foolish to have to continually call attention to the presence of smallpox, because it is one disease that is perhaps more easily prevented than any other extremely contagious disease. For more than a hundred years vaccination has proved its efficacy under every conceivable circumstance. Vaccination is easy to procure. Any doctor is ready at any time to vaccinate a person carefully and success-

fully. Less than five minutes time is required, and with proper care and attention to the arm after vaccination no harm is ever likely to arise to the individual that is newly vaccinated.

Vaccination for babies and young children should be as universally practiced as naming the babies. Among civilized people there is in this day and time no excuse for a person having smallpox, or for the presence of the disease in any community. The reason it is still prevalent and still spreads from state to state and city to city is a tribute to the power of prejudice and ignorance in the face of a better knowledge on the part of everybody.

A BULLETIN ARTICLE BRINGS ONE MAN A TEN THOUSAND DOLLAR JOB

The following headline appeared in the *Raleigh News and Observer* of Sunday, December 4, 1927: "STATE COLLEGE PROFESSOR ACCEPTS \$10,000 YEAR JOB." The subheading of the article was as follows: "Dr. Frank Rice Becomes Executive Secretary of Evaporated Milk Association."

The paper, in describing the new work of Dr. Rice and something of his record here, had the following interesting item: to wit,

"It was an article of his published in 'THE HEALTH BULLETIN,' a publication of the North Carolina State Board of Health, on 'Condensed and Evaporated Milk, that brought him to the attention of the evaporated milk people. The article appeared in January, 1926."

There are two or three reasons at least why we are calling attention to this item. In the first place the State Board of Health has tried for many years to make the *HEALTH BULLETIN* a serious publication carrying editorial matter and special articles of timely significance and of importance to all the people. An earnest effort has always been made to make the *BULLETIN* a distinctive publication in that it shall always carry matter of technical and scientific value, in short, information, if you please, to all classes of people. To achieve such a result it is necessary

to procure articles by men and women who are masters in their special fields, who will write articles of distinctive value. We have always tried to refrain from filling its pages with rehash stuff, old, out-of-date material, or with matter available elsewhere.

This is not the first record of a favorable connection being made by authors of articles appearing in this *BULLETIN*. Therefore we should like for people of special ability who are able to write entertainingly, interestingly, and informatively on any health subject to submit articles to us for publication. We cannot promise to procure a ten thousand dollar a year job for all of these, but we can promise to cheerfully send the manuscript back to the author, postage prepaid, when such articles submitted are not available for the *BULLETIN*; and we also promise to publish such articles as in our judgment will help make the *BULLETIN* what it ought to be.

Another reason we have for publishing this item is to illustrate that many responsible people the world over are numbered among the careful readers of *THE BULLETIN*. We have interested subscribers from British India to the African Congo. The *BULLETIN* goes by request to practically every important country in the world, as well as to

every state in the union, and so on. When we begin to think that it is not appreciated and start out to take off of the subscription list some name, in Japan or Australia for instance, in due time we receive a letter protesting that their copy of the BULLETIN has not arrived. No name is ever placed on our mailing list except on direct request of the recipient or some friend.

If the BULLETIN is to continue carrying a worth while story each month and

to continue to be a militant agency for the advancement of the cause of public health throughout the State of North Carolina and elsewhere, it is necessary for us to receive the product of many minds and especially from people who are authorities on the subjects about which they write.

Yours for good articles, and ten thousand dollar a year jobs for the writers of every one of them, including the editorials.

THE WARFIELD HOME FOR AGED WOMEN

One of the great beneficent bequests made in the South during 1927 was revealed in the will of the late President Warfield of the Seaboard Air Line Railway following his death sometime ago. President Warfield left most of his property (said to be between five and ten million dollars worth) to the building and endowment of a home for aged women at his fine estate in Maryland, the institution to be known as a memorial to his mother.

President Warfield was one of the South's great citizens. He had an abiding faith in the future of this section and put his life and his money to *work* through the agencies of the Seaboard Air Line Railroad for the upbuilding of several southern states. The activities of this railroad touches the business interests of North Carolina at a great many vital points. It is somewhat significant that a man of Warfield's business capacity should settle upon such a worthy enterprise on which to spend his fortune after his death. This example of Mr. Warfield, we hope, will lead to many other bequests of like character.

A cold calculating world has been accustomed to looking with too little sympathy toward the aged and infirm who have fought its battles and made possible the most of whatever progress is achieved. In public health work the tendency has long been directed almost exclusively toward the conservation of the lives of infants, children, and the very young. It is argued now, and has been argued all the while, that the value of these lives from a cold commercial standpoint so far exceed the lives of people past life's meridian,

that most of the efforts, and nearly all of the money, should be spent on protection for the very young classes. This is all right both from a commercial and a humanitarian standpoint, but when done to the neglect of the aged and infirm it is nothing short of a shameful procedure.

We have but to look about us in any community in the State (almost every household can hold an inventory of its own) and we can all, by checking up, see instances of neglect, either innocent or wilful, of many aged people, especially old women. An old man is generally sufficiently able to battle for himself. When thrown upon his sons or his daughters for the necessities of life in old age, as is often the case, he usually has the faculty of making it so disagreeable for everybody around him when crossed or neglected that he generally gets what he wants, because in getting it life is made easier for his sons and daughters. On the other hand, the aged woman left a widow, as is very often the case, is buffeted about between the children. The old home is either sold or divided or it goes for debts contracted by the children or by the husband before he died. Stark tragedy is too often the portion of such old women. If they live with a son and his wife, there too often seems to be a biological incompatibility between the old woman and her daughter-in-law, although the younger woman strives to do everything in her power to please and comfort her mother-in-law. Owing to the fact that the younger woman has her own family cares and her own struggles in the upkeep of her family, the older woman has simply to take

the consequence. If she lives with her daughter and her son-in-law, perhaps they are not only willing but anxious to do everything for her comfort, still her daughter and her son-in-law, speaking of the average family, have their own struggles in keeping abreast of the tide and in facing financial and other obstacles common to everybody; and while the older woman may not suffer so acutely she feels that she is an added burden to the cares of the family. We presume that the majority of them are loved and cared for and want for nothing in the way of creature comforts; but there is a large minority for which that cannot be said. One of the chief tragedies of such old women is the fact that they have to break their association and friendships of a lifetime and pull out and be moved to a new environment. This is necessary because her children frequently settle in other communities, other cities, and even distant states; and the longing and homesickness of such old women frequently know no bounds. Most of them suffer in silence until death ends the struggle.

The younger generation owes a great deal more to their forbears than they ever realize until it is too late. There-

fore it is gratifying to know that big business itself through Mr. Warfield's act has signified in the only kind of terms which talks our modern language that we should do these things definitely and better than we ever have in the past. Let us hope that the next multimillionaire in North Carolina who shuffles off this mortal coil will establish a home for the aged and infirm women of North Carolina equal in comfort and magnificence to the Maryland home established by Mr. Warfield. Such a home located anywhere within this State would be in reach of a day's journey from old friends or relatives of any old woman placed in it, and therefore all the home ties would not be entirely broken and the large class of our population, the most deserving class in it, would be assured forever of all the comforts, both physical and mental, that they could desire in their declining years. In such a home they could find congenial associations, and on a great estate like that of Mr. Warfield's in Maryland those who love the outdoors and natural life would have an unbounded opportunity to enjoy themselves in the communion with nature and the great outdoors and among kindred souls.

FACTS AGAINST OPINION

First Report Issued By Revenue Bureau On Automobile Accidents For Month of August Supplies Some Necessary Information

The first report of the North Carolina Revenue Department, under the law requiring a report of all automobile accidents occurring in the State to be made to that bureau, was issued for the month of August, 1927. This report promises to supply some very much needed and important information concerning the subject of automobile accidents. All of us are agreed that accidents are increasing in frequency, and that there are entirely too many accidents. Every man has an opinion on the subject of the cause, and one man's opinion is worth just about as much as another, everything else being equal. It seems, however, that there is a steady tendency emanating from Chicago and spread out over the

country to repeat like so many parrots that the chief cause for accidents runs about as follows: "Defective eyesight, defective hearing, intoxication, exceeding speed limit," and so on down.

The Report of the Revenue Department reveals the fact that there were forty deaths occurring on account of automobile accidents during the month of August. In the first place, the report makes it clear that no driver of any car involved in an accident was suffering from any kind of apparent physical defect. Second. The report shows that all forty of the fatal accidents occurred on roads reported to be in good condition. Third. Twenty of the fatal accidents occurred on a State highway and on a perfectly straight

road. Twenty-one of the forty fatal accidents occurred during fair weather, and twenty-five of the forty accidents occurred in the daytime. Eleven of the forty fatal accidents were caused by automobiles running over pedestrians.

In the opinion of the writer of this article, the following tells the story: Eight of the fatal accidents were produced by the drivers of the death cars exceeding the speed limit. Four people were killed on account of the drivers of the death cars being on the wrong side of the road. Four of them died on account of the driver trying to take the right-of-way when he did not have it. Five were killed by the fool, known to all motor drivers, who is eternally cutting in ahead of another car. Four people were killed by the car trying to pass on the wrong side, and three of them met death on account of the morons who were driving the cars, undertaking to pass another car coming up hill or on a curve. Nine people were killed by the car running off the road. The report does not say, but it is presumed that the most of them met death by the cars not being under control, or running at such an excessive rate of speed that a curve could not be taken.

Just about the time the Revenue Bureau reported its findings the New York *Times* published a description of the proposed drastic new automobile traffic law in Italy. Some of the high lights of that law should at least prove interesting to our people. In the first place, they propose to limit the speed to a maximum of nine miles per hour. This at least indicates that the Italians know about where to lay their hands on the chief trouble in automobile fatalities. They propose in the case of an accident to hold the responsible driver of the car guilty until he proves his innocence. The mere fact of proof that a driver has exceeded the speed limits subjects him to a minimum sentence of one year in prison. When a pedestrian is killed on account of reckless or careless driving of a car, the driver of the automobile will meet with the minimum sentence of ten years and the maximum of twenty years in the penitentiary. In the case of an accident in which a pedestrian is

injured or killed, the proposed law is said to presume that the motorist will be held to be at fault, and that the burden of proof of his innocence will be entirely upon him. The *Times* reports that, although there are only one hundred thousand automobiles in the whole of Italy with forty million population, the drivers of most of the cars are speed maniacs. In the language of the *Times* reporter "they worship speed. They race each other along dusty, bumpy roads in a way which would not be allowed in any other country in the world."

We would like here to reiterate the following opinion that we have had all the time about the operation of automobiles, and that is that the driver of every automobile should have good vision, should have a reputation for care and for obeying the traffic laws, and, above all, should have a reputation for courtesy and sobriety, and who is able to keep his car under control and not to lose his head under average circumstances.

Unless there is a better observance of the traffic laws we have: unless the drivers of automobiles are more careful than in the past; unless the mania for speed is curbed and controlled; and unless the average driver manifests more respect for the rights of others on the road, it is very probable that the parrot brigade of uplifters will succeed in getting some such drastic laws as the Italians are proposing on the statute books in North Carolina. If this should ever be the case, a great deal of injustice and petty restrictions may be expected to be thrown around all motorists, and several thousand otherwise perfectly safe and responsible drivers will be deprived of the right and pleasure of operating motor cars on the highways of North Carolina just because perhaps they may be deaf in one ear, have one leg, or an appetite for apple pie. The pendulum always swings back fully and completely and the reaction from the present dangers of the highways will probably be just as destructive and just as disastrous to travel in North Carolina as the laws proposed by the Italians.

COMPETITION BETWEEN STATES IN AUTOMOBILE KILLING

Along about 1880 when our fathers began in earnest the task of filling in, so-to-speak, or building up the great valley of depression and desolation known as North Carolina, and lying between the two great peaks of grandeur, Virginia on the north and South Carolina on the south, it soon came to be the custom, which has continued until now, of claiming all the "First" in sight. Some of these firsts do us little credit. So, when we discover one of that kind we take pleasure in entering a disclaimer. One of the latest of our disgraceful "Firsts" to get set going is the statement that more people are killed in North Carolina by automobiles in proportion to the number of cars registered than any other state. We are glad to find that this particular first—although bad enough to our shame is not fully justified by the facts. But first let us have the story as published in the *Raleigh News and Observer* in a report of a speech made by Hon. Robert N. Page at Southern Pines sometime ago.

"SAYS THIS STATE KILLS THE MOST

"Heads the List in Traffic Casualties, Says R. N. Page, for State Police

"Southern Pines, Sept. 29.—At the Kiwanis Club weekly dinner at Pinehurst yesterday Hon. Robert N. Page told of one place in which North Carolina leads the United States, and it evoked no applause. 'I come with no boast, but with the deep humility that this discovery forces on me, to tell you that our State holds the record of killing and injuring more people in proportion to the number of automobiles licensed in the State, than any other state in the Union. I have just returned from a 1,300 mile drive through the states of Virginia, Maryland, Pennsylvania, New York and West Virginia, and my experience has been a revelation. I noticed that outside of North Carolina orderliness and law are observed. In our State the speed law is 45 miles an hour, and this I think is a great mistake. In Virginia and Maryland it is 35 and in Pennsylvania 30. Pennsylvania with more than four

times the number of cars, and with foreign traffic from the other populous states adjoining handles the traffic of infinitely greater density than we do at a speed limit of 30 miles, and handles it with perfect satisfaction.

"Before I got out of North Carolina on my trip to the North I met half a dozen reckless drivers who tried to pass me on curves or on hills and other places where they could not see the road ahead of them. In the two Virginias, Maryland, Pennsylvania and New York I did not encounter a single case of this kind. But on coming home I was not a mile over the North Carolina line until a fool trying to run around me on a dangerous curve nearly got me.

"North Carolina pays no attention to traffic laws. That we have more accidents in proportion to our number of cars than any other state is not a joke. It is a bloody tragedy, terrible in its seriousness.

"State supervision of our traffic law seems to me the only solution in making our highways safe for travel, and that is absolutely necessary for safety. We all do as we please now and get away with it. If the Kiwanis Club can inaugurate a movement that will procure safety on the roads, it will accomplish more than anything it has yet undertaken. We can save hundreds of lives and thousands of injuries every year if we bring about an enforcement of the law as I found it enforced in other states. What we need is a State police system under State supervision to put the fear of God and the law in the hearts of the indifferent and reckless fools who bring about the deluge of blood and carnage that the papers tell us about in all sections of the State every morning."

Much of what Mr. Page said in the foregoing is true, and no doubt the Legislature will soon feel the same way about it and take proper action to remedy such a situation as pointed out and recommended by him. We are pleased to find however upon a careful study of all available reports for 1926 that North Carolina's claim to any such a first is not justified.

The facts are as reported by the vital statistics departments of the different states, that there were ten states who made a worse showing in 1926 than North Carolina.

The ten states in which more people were killed in proportion to cars licensed than were killed in this State, were Alabama, Delaware, Florida, Illinois, Louisiana, Maryland, Nevada, New Jersey, New York, Pennsylvania.

The above named states comprise more than one-third of the population of continental United States. It will be noted that Pennsylvania, New York and New Jersey all "outkilled" North Carolina. Regardless of traffic control or lack of it, those states had a high killing record along with North Carolina and for about the same reasons. They have roads and the proportion of people traveling over their roads is always out of proportion to the number of cars owned, licensed and operated within the bounds of the state by their own bona fide citizens.

We are perhaps criminally careless. Safety on the road requires that all automobile drivers should be careful and that all have reasonably good manners. The well-bred, careful driver never passes another car whether on a curve or straight road without experiencing the feeling that he ought to apologize to the other fellow. Such a driver seldom has the blame for an ac-

cident fixed on him. Good old Judge Oliver Allen never neglected an opportunity in charging a grand jury to remind them that North Carolina had less culture per baby born than any other state in the union. We suspect after all that is about the feeling Mr. Page had when he completed his trip. Anyhow our record of killings is disgraceful and every good citizen should make it his business to assist in every way possible to remove the stigma.

Since writing the foregoing article we have obtained from the United States Public Health Service their latest available figures on automobile fatalities. This covers the year 1925 instead of 1926. Their figures comprise the whole registration area of the United States, which composes a little less than 90 per cent of the population. We find that there were 24 states having a higher death rate from automobile fatalities that year than the State of North Carolina, the rates being based on number of automobile fatalities per 100,000 of population. The average for the whole United States was 17 deaths per 100,000 in the registration area, and the rate in North Carolina was 13.4 per 100,000. We are glad to append this summary of the Public Health Service reports, because it bears out our opinion that, while our record in this respect is bad enough, we are a long ways from being first in automobile killings.

HOPES FOR GREAT RURAL HEALTH MOVEMENT WITHIN NEXT TWENTY-FIVE YEARS

In a letter to the *Chatham Record*, recently published by that paper, Dr. Clarence Poe, editor of the *Progressive Farmer*, quotes the item published below from an editorial which he had written and published in the *Progressive Farmer* on July 4, 1924. The editorial referred to five movements which the editor hoped to see come to success during the twenty-five years ending in 1949.

"I hope for a great forward movement in rural health work. Just as every Southern State these last 25 years has come to recognize 'the equal right of every child born on earth to

have the opportunity to burgeon out all there is within him,' so must states and nation recognize the equal right of every child to have the opportunity to safeguard life and health. Our civilization is a mockery and our democracy incomplete so long as wealthy parents, when their children are sick, may summon hospital and medical and surgical attention to save life in cases where poor parents must look on helplessly and see their loved ones suffer and die. Before 1949 some one must arouse the conscience of humanity and end this evil."

THE ECONOMICS OF HEALTH

The business and economic world is becoming more and more interested in the issue of public health. It is beginning to reckon in new terms the value of health as a factor in its own well-being.

That is the reason for the institution of so many public health measures, the reason that government is reaching its strong arm out and demanding of the people that they do this and that in order that the community may enjoy a better degree of health. It cannot afford to be sick and that is the assumption on which government is proceeding.

The cost of illness to industry has never been determined Nationally, but one prominent manufacturer with an annual payroll of approximately \$5,000,000 estimates the total annual cost of illness to his business, including charges for idle machinery and loss in production, to be \$287,500. The loss to the individuals and the community due to the illness of his employes is estimated to be \$303,000 annually. This takes into consideration direct loss of wages, indirect loss of earning capacity after illness, medical and nursing expenses, public expenses and charitable relief.

In a number of leading stores six days lost per individual each year from illness and injury proved an average experience. For a working force of 1,000 people at an average wage of \$3 per day this amounts to \$18,000 a year in direct wage loss alone. Industrial medical supervision at an average annual cost of several dollars per worker offers one method of reducing such losses.—*The Charlotte News*.

A COW TO LOAN

There may not be anything new under the sun, but through the Weekly News Notes the Child Welfare Topics sent out by the Children's Bureau at Washington sometime ago we ran across an item that is certainly news to us. It may have been in practice a long time, but the writer of this article certainly had never heard of it before. The item describes how the American Red Cross chapter at Greenville, South Carolina, sometime ago

purchased a "lean cow," known as the "Red Cross Loan Cow," for the purpose of lending to poor families throughout that county who need milk but are not able to purchase it. Come to think about it, the Red Cross has probably spent a lot of money in time past that did not have anything like the practical appeal that this undertaking should have.

The Children's Bureau News Notes says that "The cow was procured sometime ago when there was reported a pitiful case of an entire family destitute and suffering from pellagra. Milk was essential to their recovery, and a cow was bought by popular subscription, to be owned by the chapter and loaned to the family. Since the recovery of the pellagra victims the cow has been loaned to other needy families, and has been found to be an asset in the relief work of the Red Cross chapter which is the only organized relief agency functioning throughout Greenville County."

The foregoing arrangement may be pretty bad on the cow, but it certainly should afford a very present help in trouble to quite a number of families needing milk and not able to get it otherwise.



Who Says I Am Not a Man?

SCABIES

By D. E. FORD, M.D.

There is an affliction—it might be called a disease—which is often very annoying to our schools. It is commonly called the Itch, but is medically known as Scabies. It appears in nearly every school at some time during the year; and it is only by constant vigilance on the part of those in charge that prevents its spread.

It is caused by a little bug. This little animal is just big enough to be seen with the naked eye. It would look like a minute black speck if put on a piece of white paper.

The female of this little animal (whose real name is *Acarus Scabiei*), burrows into the skin usually where it is tenderest—such as between the fingers, but spreads nearly all over. When she gets well dug in she lays her eggs.

The eggs hatch in about two days and the young ones make their way out, grow up, and the next generation of wives digs in to lay eggs.

This causes intense itching, and the victims scratch. They keep on scratching and digging. The scratched places scab over or get infected with "blood poison" and form pusy sores. Then the poison from these sores is spread about by the scratching.

The little animals get into the sheets and blankets and underclothing and make life miserable for the whole family.

Each teacher is on the watch for this—for the first case in his school. Suspicious cases are reported to the

health department. The children are sent from school and kept out till cured. This isn't always easy. Sometimes several in a family scattered through several school rooms will have it, the baby and mother and father at home will have it.

A child is sent home, treated and comes back cured—then he gets another batch of bugs from the untreated home folks.

The treatment isn't difficult, but is troublesome and must be thorough to really cure. The important parts of the medicine are sulphur in an oily substance. This must be rubbed into the skin. No medicine by mouth is of any use.

The best salve is Danish Ointment which all drug stores sell. Take a hot bath, dry thoroughly and then rub this ointment into the skin all over. Go to bed in clean night clothing and bed clothing and next morning take another hot bath. Put on clean clothes. All underclothes and sheets must be boiled to clean them. Repeat the treatment in two or three days.

This doesn't cure the scratches and sores which must be treated the same as sores from any other cause.

A careful mother can rid her children of the Scabies easily. It's not this kind that annoy our schools. It is the family that doesn't care and won't take the trouble to keep their children clean that keeps the school upset.—*New Bern Times*.

"SCIENCE AND PUBLIC HEALTH"

Last October the American Public Health Association met in Cincinnati, Ohio, where in 1873 the first scientific meeting of that association was held. The president this year was Dr. Charles V. Chapin, who has been Superintendent of Health of the city of Providence, Rhode Island, for more than forty years. Dr. Chapin is one of the most distinguished health officers in the United States. The above title, which was the subject of Dr. Chapin's Presi-

dential Address, was a discussion of the progress preventive medicine has made since this first scientific meeting of that association in 1873. We are herewith publishing the following extracts from that address which we are sure will be of very great interest to our readers.

Science Is Progressive

"Science can never be a closed book. It is like a tree, ever growing, ever

reaching new heights. Occasionally the lower branches, no longer giving nourishment to the tree, slough off. We should not be ashamed to change our methods, rather we should be ashamed never to do so. We should try new things, but should show common sense about it. The science which can point to its achievements against smallpox, malaria, yellow fever, diphtheria, typhoid and typhus fevers, tuberculosis and a score of other diseases, as well as to a rapid lengthening of human life, and especially to the saving of vast numbers of infants from early death, need not be ashamed to acknowledge that some experiments have failed; neither should it hesitate to admit that we are still merely picking up pebbles on the shore of the sea of knowledge, and that what is not known about maintaining and perfecting the health of mankind is far greater than what is known. The opportunities for discovery are as great as before the days of Harvey, Pasteur and Lister.

Discoveries While Pursuing Daily Duties

"We are apt to think of science as concerned only with the microscope, the test tube and the chemical balance. It is my urgent desire to impress upon both laymen and professional health workers that some of the most valuable truths of sanitary science have been discovered in the field, at the bedside, or at the desk of the statistician. Great as are the contributions of the laboratory, they must all be checked by observations on human beings. There is the greatest need for scientific investigation by health officers and field workers. Such studies have borne splendid fruit in the past and will do so in the future.

"It was by his study of his patients, rather than by chemical tests, that Sir George Baker, in the 18th century, showed that 'Devonshire colic' was the result of lead poisoning, due to the custom in that part of England of keeping cider in lead lined vessels.

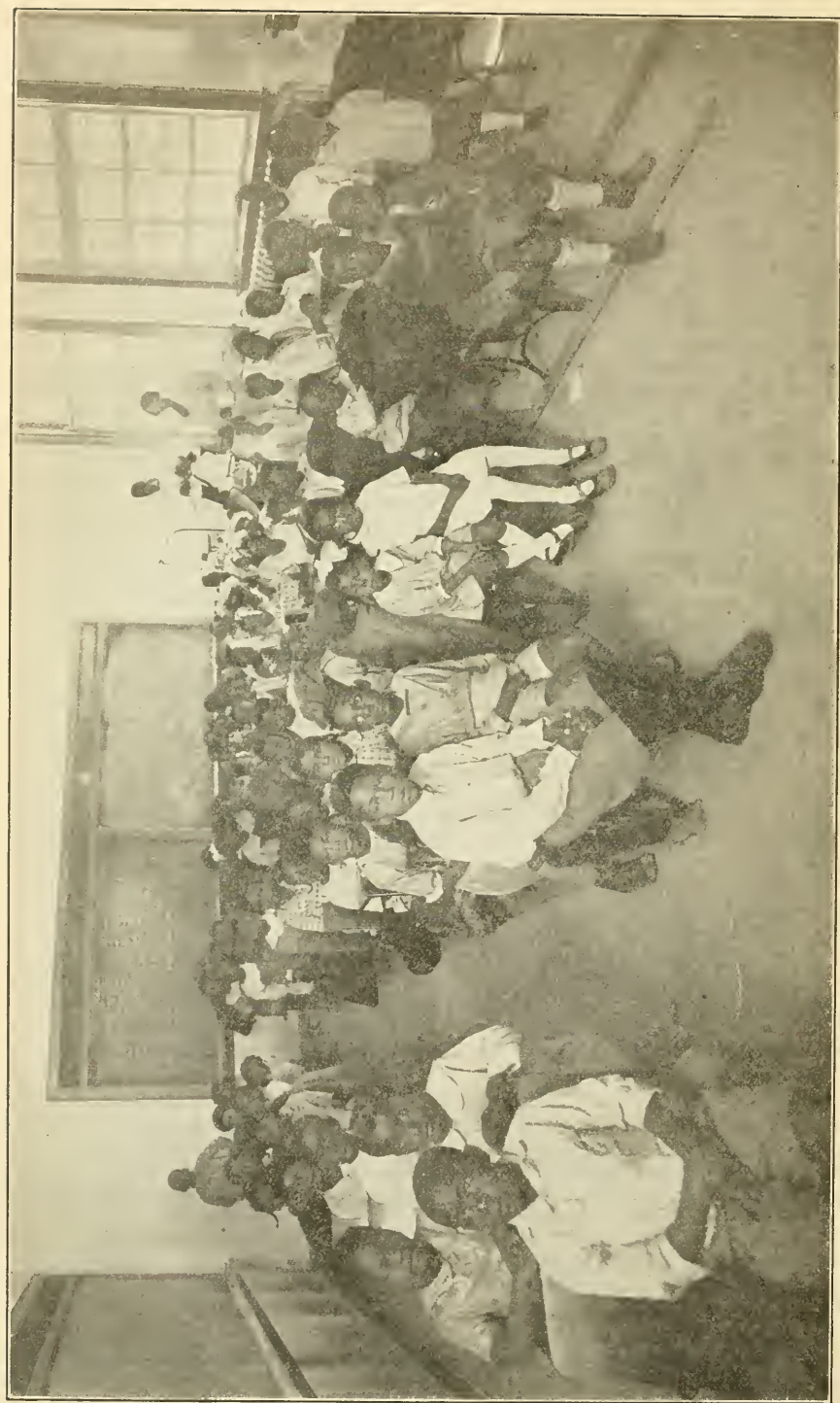
"Beriberi is a very serious disease of the tropics affecting the nervous system. According to Sellards, the nature of the diseases was discovered in the following way. In 1890 Dr. Eijkman, a Dutch physician in Java, was studying

another disease and was using chickens for his experiments. The chickens died so fast with paralysis that he feared he would have to stop his work. Suddenly, they began to get better; but after a time the same disease attacked them again. Eijkman gave money to the boy who took care of the chickens to buy cheap unpolished rice for them, but the boy kept the money and begged nice white rice from the hospital steward. It was then that the chickens died. The steward was away for a time and the boy had to buy unpolished rice. Then the chickens recovered. The chicken disease reminded Eijkman of beriberi and he tried feeding unpolished rice to beriberi patients. They too recovered. The polishing of rice seemed to remove something, the lack of which caused beriberi in persons whose diet consisted chiefly of polished rice. This disease is now largely controlled, but best of all, Funk, while trying to learn the nature of this substance, laid the foundation for the study of vitamins.

"Austin Flint, with no knowledge of germs, showed that typhoid fever is spread by drinking water. At about the same time, Dr. John Snow, of London, traced cholera to the celebrated Broad Street Well. These observations have been of inestimable value to preventive medicine.

"It was not in the laboratory, but while going through the tenements of a New England mill village during the course of a typhoid fever outbreak, that Sedgwick observed the transfer of fresh excretions from child to child, and recognized the importance of contact infection, a conception which has revolutionized our methods of handling contagious diseases.

"It was Finlay's observations on the surroundings of his yellow fever patients in Cuba which led to his suspicion that a certain species of mosquito transmits this disease. While at work for the government trying to stamp out yellow fever in the South, Henry Carter observed that after this disease is brought to a place, a certain number of the days must elapse before it begins to spread. These two facts, brought to the attention of our army officers, soon led to the complete solution of the problem and control of the disease."



NEGRO CHILDREN RECEIVING DENTAL TREATMENT

WHERE MEDICAL SCIENCE IS NOW CONVERTING DESPAIR INTO HOPE

More Than Seven Hundred Crippled Children Have Been Cured of Congenital or Acquired Defects

By BEN DIXON MacNEILL

In The News and Observer, Raleigh, N. C.

CHAPTER I

Through the kitchen window the woman caught fleeting glimpses of a small brown cloud of dust, swirling up from the road beyond the undulating green sea of corn coming near to the time of tasseling. It had turned off the main road, diminishing a little as the core of it somewhat diminished its velocity. Now it was coming up the hill toward the house.

From within the cloud sounds of a motor harassed with heat. The cloud dwindled as it came past the end of the corn field, and from it emerged, very slowly and very noisily, a weather-beaten coupe. It came to a clattering stop, the motor protested loudly and dropped away into silence. The woman, watching through the window, wiped the sweat from her forehead with the hem of her apron.

"Jane," she called through the window, "go out yonder and see what he wants."

Beneath the shade of a China tree outside the window a figure stirred painfully, stood uncertainly erect, and hobbled toward the front gate. The woman stared after her, watching the painful going of the little girl, her bent feet dragging up little clouds of dust as she worked her slow way across the withered grass and around the corner of the house. After a little Jane was back, standing silently under the window.

"Well, what did he say he wanted?" called the woman, not unkindly, but still somehow impersonally. She had given up trying to be cheerful.

"Wasn't no he," stated Jane, judicially. She moved her weight unsteadily, shifting to her right foot, and then back again to her left. She shifted constantly when she stood up.

"Well, what did she want, then?"

"First started to say she wanted some water for her Ford, but before she said that she wanted to know what was the matter with my feet."

The placid lines of the woman's face suddenly hardened. The lines about her mouth set grimly, as if she had been touched to the quick. Her eyes were bitter and compassionate and protective as her gaze moved down from the placid face of her daughter to the bare, twisted extremities of her limbs. Jane stood uncertainly, shifting her weight from one bent foot to the other. The woman turned toward the water bucket on the shelf.

"Said she was a welfare officer, or something like that, and I reckon she does need some water," said Jane.

The woman went out, with her apron thrown over her head to shield her from the beating July sun, and to hide from strange eyes the obvious fact that she had not had time that day to comb her hair. She went with an uncertain look backward at the stove, where dinner was boiling. She disappeared around the corner of the house and Jane, hesitantly hobbled after her. The strange woman was standing at the front of her Ford twisting something. She turned around as her mother went through the gate.

Jane noticed that when the woman spoke to her mother her voice was soft and friendly. Jane had never heard a voice like that. She was looking at her mother, too, and she noticed that the grim lines about her mouth relaxed a little when the strange woman spoke to her so friendly like. She reached competently for the bucket, poured the water into the

place from which she had twisted the cover, and handed it back. She smiled again and said she was so much obliged.

"It is so hot today that no wonder I have boiled the water out of the radiator," she was saying. "And this is your little girl here? . . . Jane blushed uneasily at the mention of herself and stopped still. She had better not go any farther. She had better go back to the shade of the China tree and to her helpless playing there. She was going back when her mother told her to come and speak to the lady.

After that Jane's mind was a little confused. She knew they were talking about her. Her mother was saying in her hard, stiff voice, not much used to conversation, and no little embarrassed by it, that Jane had been born that way. She was saying that they had never been able to have anything done about it, and she reckoned that they never could have anything done about it. Her mother's voice became husky, and then she fell silent. She looked anxiously back toward the house. Her dinner might burn.

"Oh, but you can do something about it," the lady was saying. Jane wondered what she meant. Her feet had always been like that. She got along well enough with them, though she knew that other children didn't have their feet twisted like hers, and that they walked past there every day in the winter going to school, and that she never went because her mother said she couldn't walk that far. She had learned to read a little from her mother and her daddy. She could sit on his knee after supper and read.

Jane was nine. She bore with her feet philosophically. Of course people stared at her when she went to church sometimes, hobbling a little ways up the aisle beside her mother. She always sat near the door, and they didn't mind her feet much. Her mother and father never mentioned them, or at least not where she could hear. But she knew they bothered her mother, because she could tell by the way her mother looked at her sometimes.

The strange lady with the soft, friendly voice was still talking. She was telling her mother about a place where they could straighten out children's feet when they were like Jane's. Her mother was listening, with her face set again, but there was some sort of light in her eyes that Jane had not noticed before. And her mother had quit looking back toward the kitchen. Her apron had fallen down off her head, and she was holding on tight with both hands to the bucket.

"If you could let me take her up there," the lady was saying. "I have to make a trip up there next week, and she could go along with me. You could go, too, if you would like. We could all three ride in the coupe here; Jane wouldn't take up much room. You could come back with me, and then when she is well, we could go for her . . ."

Jane wondered if they were still talking about her. She had never been anywhere, and her mother hadn't been anywhere either, except to church and sometimes when they went down to grandfather's on Sunday. They must be talking about somebody else. She studied her mother's face intently, but she couldn't tell what she was thinking about. Her mother started to say something, but changed her mind. Both her hands were still holding on to the water bucket. The lady waited. Jane thought she had never seen anything so pretty as the trim figured dress she was wearing. She had a watch on her wrist.

"I'll have to ask my husband," her mother was saying. "I wonder if . . . He'll not be home 'till dinner time. . . . He's plowing over in the field yonder. . . . Wonder if you could stay. . . . I haven't much for dinner, but if you. . . . Seems like I just can't bear seeing that child go on like. . . . If you could stay to dinner with us and we could talk it over with Henry. . . . I know he wants . . ."

Jane had never seen her mother like that. She was so worried looking, and her hands kept fumbling with the bucket. The child watched solemnly, wonderingly. Somehow she resented the lady's worrying her mother like

that, and besides, she could smell something burning in the kitchen. She started to hobble back toward the kitchen, but before she was half way the lady and her mother had overtaken her. The lady put a slim, pretty hand across Jane's shoulder and patted it. She looked up at her mother. There was a sort of smile on her face. Jane couldn't remember seeing her look that way.

Now a new worry began to torment Jane. What would the fine lady who drove around in her own automobile think of them? Would the dinner be fine enough for her, and would she be turning up her nose at her mother's plain cooking and plain ways? Her reason was feminine and instinctive, but the lady didn't seem to mind. She put off her hat and wanted to help. She was just like home folks, and smiling. Now and then she talked to Jane, but mostly she was talking to her mother. Jane couldn't make out much of it, but she liked the lady.

It was the same way when her father came home from the fields. Jane hobbled out to the barn while he was putting up the mules to warn him. She told him it was something about her feet that made the lady stay, though she hadn't wanted anything but some water for her flivver when she drove up. He set her up on his shoulder when he started to the house. She didn't mind her feet when he did that. The lady shook hands with him, saying that it didn't matter if he hadn't washed them yet.

After dinner they went out on the front porch. The lady had helped with the dishes, doing it as if she had been used to it all her life. Jane stood around uncertainly. She always helped her mother with the dishes. Her mother was unaccountably talkative, which puzzled Jane a good deal. Usually she said very little while they were washing dishes. Jane had a sort of left-out feeling until the lady said they would go out and look at her little playhouse after dinner.

They were still talking on the front porch when Jane hobbled in from watering the chickens. The lady was saying that it wouldn't cost anything, because the place where they were

going was supported by the State. She didn't know what that meant, but she could see that her father was relieved. He was trying to thank the lady, but he was awkward about it, and the lady said that no thanks were due anybody, because it was all in her work, and she was so glad that her Ford had boiled out its water, since it caused her to find a little girl she could help.

After the lady was gone, saying that she would be back next Tuesday morning early, because it was a long trip to a place called Gastonia, which Jane had never heard of before, the child went back to the shade under the China tree. Her mother and father stood watching the cloud of dust go swirling down the road beyond the green, undulating sea of corn, and then they looked at each other. Jane thought they looked happier than she had ever seen them, even at Christmas.

Jane sat down to the contemplation of her feet. Both of them were twisted into knots. The lady had said something about clubs. Jane reckoned she was talking about her feet. For the first time she resented them, and wanted her feet to be like other children's feet, so she could run and play, and go to school, and people wouldn't be staring at her when she went to church, and the other children wouldn't be nodding at her and nudging each other and giggling.

CHAPTER II

Bewilderments of all sorts rode with Jane and her mother and the lady on the following Tuesday. The Ford had not had to stop anywhere for water again, and they rode interminably, through hazy villages and two or three towns that Jane had not dreamed of. Her mind was groggy from new sights. She said very little, content as she was just to sit there and watch the country drift by. Now and then she straightened up from her place between the lady and her mother to stare at some unaccustomed sight.

She listened a lot to the talk between her mother and the lady. The place where they were going was a hospital for little children who had feet like Jane's feet. Oh, yes, there

were lots of them in the State—hundreds, maybe thousands. There had never been any accurate count made of them. And then there were even worse things than feet like Jane's. There was something called infantile paralysis that crippled them. Jane didn't know exactly what that meant, but she had heard her mother say that her grandmother had paralysis when she died last year. . . .

There was a man named Babington who had started the place where they cured children with the wrong sort of feet, or who had the thing called infantile paralysis. He was a mighty fine man, who loved children and who was sorry for little folks who couldn't run and play like other children. The lady said he had dreamed one night about a little boy with a twisted foot, whose father didn't have money to send him to a hospital, and that was the beginning of the place where they were going.

This man told somebody about his dream, and they laughed at him. He didn't like people to laugh at him, because it was like laughing at a little boy because he had a twisted foot that he couldn't walk on. He kept talking about his dream that he had, and people kept laughing at him. Still he kept on until he got a little place started where little boys could come and have their feet straightened. Then he got the State to give some money, and to put up a building, and get some doctors.

It had taken him a long time to do it, but he had kept at it. Once he had got mad down at a place called the Legislature and cussed because some men told him that what he was talking about was all foolishness. Jane shivered a little when she heard that he had cussed, because it was wrong to cuss, but she was glad he had done it, because the lady said that if he hadn't kept at it there would be no place for little children to go, and there were so many of them crippled.

More than anything else, though, Jane was surprised at her mother. She could laugh and talk and enjoy herself. Jane had never heard her laugh out loud in her life. She told the lady that she had been so sorry about

Jane's feet that she had never wanted any more babies. She was afraid that they might be that way, too. She said she sort of felt blood-guilty about Jane's feet. But Jane didn't understand that. She didn't think her mother was to blame at all about her feet.

Another and larger town and then a smooth road. The lady said they were almost there now. They could see a high thing that the lady said was a water tank. Jane had never seen anything so high, until she began to pass through towns that day. A long, sweeping curve, and the lady said that there was the place. Jane looked, and there on top of the hill were some fine brick buildings. The lady said it was a great thing to be built out of nothing except a dream.

A lady in a starched white dress came to the door when the Ford stopped. Her name was Miss McCullom, and she was nice and friendly. The lady seemed to know her very well, and said she had brought her another patient and that this was Jane's mother. Miss McCullom said she was so glad they had come, and they must not think of going back for a day or two until they saw how the little girl's feet were going to be.

After that Jane was more bewildered than ever. Out under the trees there were more children than she had ever seen, even at church. Most of them were lying on cots, though some of them were walking around. Some of them had crutches and a lot of them had white things around their legs and feet. They looked like they were made of biscuit dough, that had got hard. There were ladies going around among them, playing with some of them, giving them good things to eat, helping them to move about. Jane thought they were all mighty friendly.

Coming toward them was a little girl about Jane's age. She was walking as if nothing had ever been wrong with her. She had on a pair of fine new slippers, like Jane had seen other girls wearing at church. She could never own a pair of slippers like that, because her feet were twisted. But she had wanted them. The girl started to run when she saw the lady who had driven the Ford.

She came skipping across the lawn, and threw her arms around the lady's neck. She seemed mighty glad to see her, and she wanted the lady to look at her new shoes. She wanted to know if she would be going home with her, and the lady said she would. Then she ran off again. "Her feet were worse than yours when I brought her up here two months ago, Jane," said the lady. "See how good she can walk now, and how happy she is. You'll be like her when you go home."

Another car came up behind them and a man got out of it. Jane knew he must be the man who had the dream, because the children all started to calling out to him, waving their hands and laughing when he got out. He waved back at them and came over to speak to the lady. He saw Jane and came over to her. She watched his face, and she knew when she saw him smile that he was the man who had had the dream. She couldn't remember what he said to her, but she knew he was kind and gentle. He went over and spoke to her mother.

CHAPTER III

Jane didn't remember about the operation. They had taken her into a place that was white and bright and shiny, and she had been put on a table. Her mother was standing there, her face white and serious looking. Her eyes were bright. Miss McCollum was moving around and a man with a white apron or something. The lady was standing there beside the table holding her hand. She said they would not hurt her a bit, and Jane was comforted out of her panic.

When she woke up she was sort of dizzy and her feet were cramped and numb. She tried to lift them, but they had something around them that felt very awkward. Her mother was still standing there, though they had moved her out of the place where the table was. The lady came in, smiling and happy, and taking hold of her hand, said that Jane had been a brave little patient and would soon be well again. Jane was drowsy and went to sleep again.

The next day her mother and the lady had gone home. They still kept

her in bed, but there was a nice pleasant lady in a white dress who came in to see how she was getting along. Now and then other children hobbled in. Some of them had one arm that was not near as big as the other, and some of the others had legs that were that way. Others just had that white thing they called a cast around their ankles. They could walk in them as good as Jane could walk before she came there.

Most of the time they stayed out of doors. Jane was lonesome and a little homesick for the first days, but the children were all so happy and the nurses were so kind to them that she got over it. Jane had never been among children before, and she was silent and awkward. She didn't know what to say to them when they talked to her, but there was one nurse who seemed to know how Jane felt. She would come over and sit on the edge of the bed and talk in a low, soft voice, just to Jane.

After a while they took the cast off and put on another. They said her feet were coming along fine, but Jane couldn't tell any difference. They felt mighty cramped up in that cast, and she almost wished that she hadn't come. She thought about the girl with the new shoes, and decided that she could stand it. She got more used to the talking among the children, and to hearing them laugh. Jane scarcely knew how to laugh. There had never been much to laugh about at home.

A lot of the words the children used were so strange. They knew words that were longer than any Jane had ever heard of. They were names of diseases, she reckoned. There was a boy two cots away when they were out of doors who used a lot of them. He had something the matter with his back, and Jane reckoned the words were the names of the things that were the matter with him. But he was going to be well.

Almost every day the man who had the dream came out. If they were in the house he came through the wards. He stopped to speak to every child there, smiling and joking with them and asking them how they were doing. Jane thought he must be a doctor until one day she heard a big boy say he ran

a telephone company or something like that. He wasn't a doctor at all. He was just interested in little children who were crippled. Jane thought he must be something like Santa Claus. He knew her name every time he came, and that surprised her.

Weeks moved along. Part of the day they were in school. They lay there in their cots and had classes, or hobbled around their teacher. Some of the boys were big and could read anything. Some of them were just little babies, and couldn't read at all. There was one little fellow that Jane wished was her brother. He had brown eyes, and he had never walked a step when he came there. He had casts on, but he was learning to walk. He would come over to Jane's cot and smile at her. He was three years old. He never cried, and was always ready to play.

Jane had never seen so beautiful a place as the valley below the yard where they played when it was weather to be out of doors. She liked to lie there and just look at the mountain that was away off there. Still further away there would be a smudge of smoke and two little things sticking up through it that the nurses said was a place called Charlotte. You could see it plain enough when the sun was shining.

Almost every day somebody went home. Jane always watched for the signs. New shoes. The cast would come off, and then the patient would come wandering out, walking uncertainly, with a nurse to hold her hands. And almost every day a car would come up to the door and a new child would come in, with bent feet, or withered arms, or twisted legs, or crooked back. They would disappear for a day or two into the building, and then a new figure, with a cast on it, would be wheeled in among them.

And then finally the day when they took the cast off her feet, and they told Jane to look. She looked. Surely these were not her twisted, ugly, useless feet. She wiggled her toes experimentally. They moved, even though the muscles were stiff and weak. They were like the feet of any of the other children she had seen at church, though white and slender and fragile. At any rate they were not knotty and ugly.

"Can I . . . Can I have some shoes, now?" she asked, finally. The nurse smiled and said wait a minute. She went into the house and came back. Her mother was standing there, and beside her, her father, and behind them the lady with the Ford. Her mother had a bundle in her hands, but Jane didn't notice it. Her mother looked so strange. Her face was soft and gentle, like the lady's. Jane didn't understand it. She looked at her father. He had on a new suit of clothes, and he was smiling, grinning almost.

Jane held up her hands. She laughed. Her mother had never heard her laugh before. She came forward and bent down over her. Over her shoulder Jane saw her father reach for his handkerchief and wipe his eyes. Beyond him the lady was standing, silent and Jane could see, very happy. The bundle had dropped down and the wrapping had burst. Jane could see the new shoes, which she could understand, even though the light that had come into her mother's eyes was still too deep for her years.



Two Years Old and Nothing Much to Worry About

FATIGUE IN CHILDREN

By WINGATE M. JOHNSON, M.D.

Winston-Salem, N. C.

In discussing the subject of fatigue in children, it will simplify matters if we first decide just what is meant. I do not propose to take up time with the natural feeling of weariness which comes to any healthy child or adult after strenuous exercise, and which disappears after sufficient rest. This might be called temporary or physiological fatigue.

Another type of fatigue which is also physiological but which may cause parents some concern, and which really deserves more than passing notice, is due to the relatively small size of the heart in children from the third to the tenth year, most marked from the sixth to the eighth or ninth year, and later on in the early 'teens with periods of rapid growth. These older children, particularly, should be carefully guarded against over-indulgence in athletics, especially when the stress of competition is added. Osborne, in his admirable little work, "Disturbances of the Heart," has well said, "It should be emphasized to school-masters, gymnasium teachers and athletic trainers that a boy who is larger than he should be at his age has not the circulatory ability that the older boy of the same size has. The overgrown boy has all he can do to carry his bulk around at the speed of his age and youth. The addition of competitive labor over-reaches his reserve heart power, and he readily acquires a strained and injured heart." Dr. MacConnell, physician to Davidson College, once said at a State Medical Society meeting that he examined young men every year, entering Davidson, whose hearts were injured for life by over-indulgence in high school athletics.

In these days when the classes in athletics are far the largest and most popular in our educational institutions, and when the head coach is paid much more than the president of the average college, I do not think I have taken up too much space with a note of warn-

ing as to the possibility of overdoing athletics in our high schools. One other plea I should like to make is for more careful physical examinations of our young athletes, and before they are allowed to enter into strenuous athletics.

The fatigue that is to be under discussion for the rest of my paper is a chronic state of weakness in children which is not due to any physiological cause. It is practically always associated with malnutrition and perhaps its chief cause. Every physician of any experience is painfully familiar with the type—whose mother introduces the patient with the statement, usually made in the child's presence, that she is bringing him to you because he never seems to feel good, is always cross and irritable, and never wants anything that he should eat. Then she usually makes the pitiful confession, which you may be sure the child hears and ponders—"I can't make him do anything."

While a careful history is never to be neglected, one can almost make up a stock history that will fit about nine-tenths of these children. The parents are usually of nervous temperament and over-indulgent or—rarely nowadays—despotic; often both types are represented, with frequent clashes in the child's presence. In many cases the mother leaves the care of the child almost entirely to a nurse. The little patient has never had a good appetite, so has been tempted with delicacies, usually sweet, in season and out of season, but mostly out of season (meaning between meals). He has never slept very well, somehow actually prefers staying up late at night, and is averse to sleeping in the daytime.

These children are apt to be movie fans, spending in theaters none too well ventilated, hours that should be devoted either to out of door amusements or to sleep. Many of them are leaders of the "younger social set."

If of school age, they are apt to be either precocious—in which case they are forced to skip grades to the detriment of their nervous systems—or they are rather dull. Holt says that “mentally they are bright, often precocious.” On the other hand, Morse gives backwardness at school as one of their characteristics. It is interesting to note that Terman, in a study of a thousand gifted children of California, found that the great majority of them were above the average in height, weight, and general physical development.

In short, the etiology of chronic fatigue in children may be summed up in saying that too much nervous energy is used up in the wrong way, that not enough time is allotted to restoring it by sufficient rest and sleep, and as a consequence their nutrition suffers. Heredity undoubtedly plays a part in many cases—but, as Mark Twain said of the weather, there is not much we can do about it.

As with the history, likewise a stock physical examination would answer for the majority of chronically fatigued children. Please do not think, however, that I minimize the importance of a thorough examination from head to toe, in order to exclude all organic diseases, such as tuberculosis, syphilis, diseased tonsils, adenoids, and teeth, intestinal parasites, blood diseases, nephritis, pyelitis, sinus disease, and other conditions that will suggest themselves. Whether or not any of these exist, there will generally be found a thin stooped, sallow child, with a prominent abdomen, flabby muscles, a coated tongue, and a discontented expression.

Almost invariably this child eats little or no breakfast, except to fill his belly with the husks of corn flakes, post toasties, puffed wheat, or puffed rice, made palatable by piles of sugar. Usually he is so hungry by ten o'clock that he is given some bread and jelly, a cake, or a glass of milk, effectively wrecking what appetite he might have for his dinner, which is eaten under protest, with much coaxing—the agony finally being ended by an extra-sized dessert. During the afternoon a few cakes or ice-cream cones are eaten or, in accordance with the Dairymen's League slogan, “A quart of milk a day,” a glass of milk, often flavored

with chocolate and sugar, is sipped. The evening meal is another mental conflict with the odds favoring the child to win out.

While most educators refuse to admit the detrimental results of long school days, every medical authority on children, so far as I can learn, is in accord with Still, who says, emphatically, “Long school hours are bad in every way.” We medical men owe it to our little patients to protest at every opportunity against too long hours for the first few years of school life.

Another potent cause of chronic fatigue or malnutrition in older children is lack of care of the child during and after infectious diseases. This applies to all the childhood diseases, also the ever-present influenzal infections. It is hard to over-emphasize the great necessity of rest during the active stage and convalescence of any of the ills childhood is heir to—and, just as important, vaccination against the preventable ones, diphtheria, smallpox, and typhoid.

The treatment of fatigue or malnutrition in children has largely been anticipated in the discussion of its causes.

Its prophylaxis should begin in infancy, with long hours of sleep interrupted only by regular feedings, baths in water and sunshine, and the “mothering” permissible for a few minutes before each feeding.

The feeding is, of course, of great importance. I do not propose to precipitate a discussion as to when cereals, vegetables and meats should be added to the diet of infancy, nor to give detailed diet lists, but I do want to give some very firm convictions I have acquired as to the feeding of older children.

First, there should be absolute regularity of meals, with nothing between except possibly orange juice or other fruit. Even this is not necessary, as orange juice may be given at breakfast. Notwithstanding the old superstition against giving acid fruits with milk, I have found with my own children that they mix very successfully.

Second, more breakfast should be eaten by most children, and the ready prepared cereals, such as corn flakes,

should not be allowed to usurp the cooked ones such as oatmeal and cream of wheat. I have found that Dennett's rule about giving no sugar at breakfast is a good one, in children with poor appetites.

Third, I do not believe in giving too much milk after the first year. While it is a good food, if the proverbial quart or more a day is consumed, particularly between meals, it is apt to take the place of green vegetables and other foods needed more by older children. From a pint to a pint and a half a day, with meals, is sufficient.

Fourth, in children who are hard to feed, very little sugar should be allowed. Especially should parents be warned against an excess of sugar in hot weather. I verily believe that sugar has killed more babies than Herod ever did.

Fifth, children should never be coaxed to eat, but should have the proper food put before them and told to "take it or leave it," with the distinct understanding that they must wait for the next meal for another chance. They should also be required to dispose of the substantial part of their meal before getting the dessert. If they refuse to eat their vegetables and meat, let them do without the whole meal. If a child gets the idea that he is conferring a favor upon parents or nurse by eating, he will use it to drive all sorts of bargains. Right here let me recommend two books that will prove helpful both to parents and to doctors. One of them is "Parent-hood and the Newer Psychology," by Frank Howard Richardson. The other is "Education and the Good Life," by Bertrand Russell. They are both full of helpful suggestions as to the discipline and general training of children.

Of even greater importance than diet is the proper amount of rest. Rest is nature's own antidote for fatigue. Children should be put to bed early and required to take a nap in the middle of the day. Most of these malnourished children do not need exercise as much as they do rest, though this does not mean that they should not live outdoors a great deal of their time. One point I believe important is to

see that they get a little rest period before as well as after meals. If they come in heated up from exciting play directly to the table, it is hard to get them to do justice to their plates.

It goes without saying that in older children all actual diseased conditions, such as infected tonsils, should be remedied as far as possible.

The home life of the children should be as pleasant as can be, and parental differences of opinion should not be aired before children.

Drugs are of little value in treating malnourished children, unless there is some specific disease, such as syphilis. In cold weather cod liver oil is perhaps the most effective, and it may do more harm than good by destroying appetite and interfering with digestion. Tincture of nux vomica or some preparation of iron may prove helpful in stimulating the appetite.

By way of summary, let me repeat that the chief cause of chronic fatigue in children is lack of sufficient rest at regular intervals, and the dissipation of nervous energy in wrong ways, such as too long school hours, too many outside interests in school, too many parties, movies and other social functions, and emotional strains such as are imposed by unhappy home surroundings. All these tend to interfere with the appetite and digestion. The nutrition suffers still more by unwise attempts at forced feeding at and between meals, and too much rich or unwholesome food, given for its palatability.

The treatment is to correct as far as possible the child's habits of living and to give wholesome food at proper intervals.

She—Time separates the best of friends.

He—Quite true. Fourteen years ago we were both eighteen. Now you are twenty-three and I am thirty-two.

Teacher—"I wonder if you like wit, Isaac?"

Ikey—"Sure, I do, I eats it, every morning."

"Eat what?" inquires teacher.

"Cream of wit," answers Ikey.



**WHAT KIND OF MOVIES
ARE YOUR CHILDREN
SEEING? ~**

NORMAN WOODLIEFFS, SANATORIUM, N.C. '27.





